Cooperative research processes in CREPE (Cooperative research on Environmental Problems in Europe)

Other

Co-operative Research on Environmental Problems in Europe (CREPE)

WP8: Cooperative research processes in CREPE

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Introduction: reflecting on cooperative experience

Entitled 'Co-operative Research on Environmental Problems in Europe' (CREPE), this project brought together civil society organisations (CSOs) and academics as partners to carry out research together. The thematic focus was environmental issues of agricultural practices and innovations, in the context of EU policy for a Knowledge-Based Bio-Economy (KBBE). Within those overall themes and contexts, the project had five aims:

1. Capacities: To strengthen CSOs' capacity to participate in research, while engaging with diverse perspectives and expertise – thus facilitating co-operation between researchers and non-researchers, as well as between academics and CSOs.
2. Co-operative research methods: To design and test the methods used for co-operative research, as a basis to inform future efforts.
3. Sustainability: To analyse diverse accounts of sustainable agriculture in relation to agricultural methods, technologies, innovations and alternatives.
4. Priority-setting: To relate research more closely to societal needs, as a means to inform policy debate and research priorities for Europe as a 'Knowledge-Based Society'.
5. Solutions: To suggest alternative solutions related to different understandings of societal problems, agri-environmental issues and sustainable development.

As regards the first and second aims, research cooperation is becoming widespread as a means to address the economic, environmental, social and technological problems that the world faces. Research organisations go beyond working with each another; they broaden their networks and methods to involve public, private and CSOs, also called non-governmental organisations (NGOs). Co-operative research forms part of this expanding activity, which has been especially prominent in areas such as agriculture, development studies and health.

Cooperative research has overlaps with other relevant concepts – such as participatory research, partnership research and action research – which also describe collaborative processes. The relevant literature has evolved within discrete fields and disciplines; each community of practice has developed different definitions and understandings of such activity. The concept of partnership brings together and re-labels the many different ways of sharing knowledge; this means networking, participation or collaboration across organisational boundaries, rather than simply transferring knowledge between them.

As these initiatives recognise, research depends upon broader knowledges and methods than conventional research processes. Cooperative research has been defined as a 'form of research process, which involves both researchers and non-researchers in close cooperative engagement' (Stirling, 2006, page 9). This also aims to open up the assumptions and aims of research through deliberative processes.

As part of the overall CREPE project, this study (WP 8) aimed: 1) to facilitate self-reflection on the social process and methods of the project as co-operative research; 2) to identify and facilitate ways to enhance collaborative-reflexive processes and to inform; 3) to benefit other efforts at collaborative research.

The cooperative processes operated at two levels – the overall project and the individual studies that each partner carried out. The individual studies encompass diverse forms and degrees of cooperative relationships (see Appendix 1). There have also been different degrees of progress in terms of the planning and conduct of cooperative research. Some CSO partners were building on previous capacities, projects and networks, thus more easily making progress; some CSO staff already had much experience of formal research projects. Other CSO partners were building new capacities and networks, or they encountered difficulties that led to changes in the research plan; so they needed more time to plan and carry out the research.

The research process necessarily draws upon diverse methods. Researchers have sometimes engaged with 'informants' and 'participants' in ways that may more resemble conventional research methods. At the same time, these interactions contribute to the overall cooperative process.

Within the overall project, this study has been designed to promote *reflection* on the issues faced by partners. Partners tried out methods – and then discussed with others what worked well, how it worked, what failed and what could be improved. In some cases, the researchers anticipated that the original plan would pose difficulties in gaining CSOs' cooperation (among others) and so changed the plan. All partners kept a 'cooperative research diary' detailing the CR aspects of the individual studies. Entries described the participants with whom they cooperated, how they developed cooperative relations, what methods worked well and what worked less well. Partners were encouraged to record descriptive accounts, conversations, difficulties, tensions, excitement and so

on. Reflection exercises were conducted within the partners' meetings. Near the end of the project, a final reflection exercise enabled partners to reflect back on their participation in CREPE and to comment on their experiences. The following themes have emerged from this activity.

Cooperative relations in CREPE

More equal stakes and joint responsibilities

All partners in CREPE have been funded by the project for their research activities. Furthermore, the overall project has been jointly managed and run by all the partners. These joint stakes put partners on a more equal footing and strengthen CSOs' capacity to participate in research activities, e.g. by enabling more staff time or new posts to be funded for such activities.

Within the CREPE project, all partners were responsible not only for their individual studies and overall outcomes of the project, but also for the management of the project. At the same time, ultimate responsibility for the final deliverables, and distribution of the finances, remained with the coordinating partner.

Although the stakes are more equal, they necessarily differ – e.g., because the rewards can be less obvious for CSOs than for academics. All partners sought to inform CSO strategies, e.g. for intervening in policy issues, and so designed their studies for that purpose, This is a main aim of CSO partners though perhaps not for academics. Furthermore, all participants took a risk in committing time and resources; that commitment can benefit partners if the project generates new research agendas, increases effectiveness or alters policymaking. However, in some settings, academics tend to be better established and can afford to take riskier routes in research.

Multiple identities, cultures, synergies

In cooperative research we distinguish between academics and CSO staff, but a distinction between researchers and non-researchers can be misleading. Such categories ignore the multiple roles being played by both academic researchers and CSOs. CSO participants in CREPE reflected on their multiple identities, especially the challenges faced in being both a researcher and a CSO staff member. For example, they may be treated as political activists rather than being taken seriously as researchers. By contrast to most academics, CSOs are involved in many issues beyond their research themes, so they are continuously being pulled by other projects, campaigns and colleagues to consider a variety of approaches. Potential diversions are compounded in cooperative research.

The CREPE project brought together CSOs which had been working with stakeholders in their own networks of practice and so were already engaged in cooperative practices. Although very different cultures were brought together in CREPE this encounter did not tend to lead to disagreements, rather the opposite. In practice, negotiations were made and the differences enabled partners to learn from one another.

The individual studies varied in ways reflecting the thematic focus, organisational culture and strategic perspectives of each CSO partner (as shown in Appendix 1). Some studies favoured societal groups suspicious of dominant policy agendas, while other studies involved stakeholders promoting divergent views and interests. For example the TNI study of 'agrofuels', adopting this pejorative term, involved mainly CSOs and social movements which had an affinity with TNI's critical perspectives (WP1). CIVAM, as agricultural extension agents, had already worked with academics in order to research the practical issues of farmers in short food-supply chains; its extra study was also used to influence policies of local authorities (WP4). By contrast to those two case studies, the study of water scarcity built networks including all relevant stakeholders, amidst practical and policy conflicts over water management; workshop discussions were meant to clarify current practices and future options for improvement, especially through greater cooperation among stakeholders (WP3). Here researchers did not attempt or pretend to hold the study accountable to the stakeholders, thus avoiding conflicts over the research orientation. In such ways, WPs 1-6 have developed and extended wider stakeholder networks, partly through workshops (whose reports are available at http://crepeweb.net/?page_id=191).

Strengthening and developing networks

As highly networked organisations, CSO partners see co-operative research as an opportunity to extend and strengthen their networks. In this process, more participants were drawn into the issue which animates the CSO partner; they were able to strengthen existing networks, form new ones and foster their networks of practice (Brown and Duguid, 2001). Furthermore, by working with academic researchers, CSOs could make links with the wider academic and policy networks of those researchers. In this way CSOs can gain many benefits, some of which may be unexpected and unplanned.

Relationships formed through the CSOs' workshops were particularly important. These events enabled participants to combine different knowledges, to share experiences, to build new relationships and thus to foster their networks of practice (cf. Brown and Duguid, 2001). Involving

local, tacit, situated and therefore grounded knowledge has been important for opening up new research directions. For example, the FDG's workshop informed the research for its study of community-supported agriculture, with advice from academic experts. Alongside the workshop, moreover, a national meeting of urban food projects provided a temporary 'community of practice', which had some potential to continue beyond the CREPE study.

For both communities and networks of practice, new opportunities for learning and fresh insights often occur at boundaries (Wenger et al., 2002). The studies in CREPE highlight the need for boundary spanners who are able to span different communities of practice and who have the necessarily facilitation skills. Within CREPE partners have been playing a knowledge mediators role in their studies, e.g. by mediating between various experts, CSOs and other actors. In WP6 FSC sought to play a mediation role between agri-ecologists, peasants and CSOs, as a basis for such actors to share their knowledges and cooperate in research activities.

As a disadvantage, this mediation role could create an extra layer, resulting in additional gaps between knowledge broker and producer – likewise between knowledge broker and user. Such problems can be avoided by boundary spanners who are legitimate members of different communities and thus able to span boundaries without such a gap. Boundary spanning and effective facilitation require specific skills, which need to be developed among both academic researchers and CSOs.

Sustainable agriculture: critical perspectives

Although the various studies researched different topics, all related to agri-environmental issues and sustainable development. So partners were able to draw on each others' expertise. From all those studies, the project aimed to draw overall conclusions on options and research priorities for sustainable development.

Towards those aims, the studies were integrated in several ways: The project developed a transversal perspective linking the various studies on issues of sustainable agriculture. The Coordinator analysed contending accounts of sustainable agriculture and suggested ways to make these accounts more explicit in the various WP studies (see Appendix 5). Each consortium meeting had a session on those over-arching issues, including an exercise for comparing the various studies, as regards divergent accounts of sustainable agriculture. Partners commented on the Coordinator's draft analysis. This document helped to link partners' conceptual thinking, as well as informing each study.

Thematic discussions on sustainability also opened up the original research questions, which became suitably more complex. The Coordinator's draft analysis had implied that different policy agendas or accounts of sustainable agriculture correspond to different institutions. As our discussions indicated, however, divergent agendas were co-existing within the same institution. Or such accounts remained elusive – remaining implicit and so difficult to analyse.

As another overlapping aspect, some topics featured technological solutions for agri-environmental problems. Dominant policy agendas were proposing solutions which would more efficiently use natural resources to enhance sustainability. In our studies, these solutions were critically analysed as techno-fixes evading the fundamental sources of unsustainability. This critique became explicit as a generic topic linking those studies in our transversal analysis. Such discussions were central to the CR aspects of the overall project, as well as to the transversal project-wide report. Eventually this analysis formed the basis for the Brussels workshop on knowledge for sustainable agriculture (CREPE, 2010) and eventually the final report of the project.

Learning in a cooperative research process

Mutual learning

Mutual learning played an important role as partners discussed their methods and experiences with other partners; they were learning by doing. CREPE offered 'training' in an approach to research. For example, in the WP2 study of community-supported agriculture, partners were learning several methods – how to work in a team of practitioner researchers; how to relate to non-specialists; how to develop small scale independent projects; how to deal with the practical difficulties of engaging in grounded, local community practice-based research, (WP2 Critical moments reflections). For the study on agrofuels, researchers noted 'new insights from the research into the topic of study which will serve as a basis for further work which will draw on the consolidation of contacts and new linkages that CREPE made possible' (WP1 Critical Moments Reflections).

Learning occurred in CREPE both within individuals, where, for example, an individual's current assumptions may be challenged, and also at the group level in the overall project level or partners networks. As noted earlier, partners in CREPE had a diversity of prior experience in doing this type of research. This diversity was important for the learning processes within CREPE; although the topics of study were diverse, they all had an agri-environmental theme. Partners were able to offer each other both moral support and their particular expertise, in both the processes and research topic.

Those partners with less experience of academic research were able to learn research methods through joint activity and advice.

Within the overall project, interactive engagement with the academics enabled CSOs to obtain assistance to produce research in a rigorous way, although not necessarily in the sense of conventional academic research. In the individual partner studies, mutual learning occurred within the partners' networks of CSOs. The workshops in particular played an important role in this respect.

Understanding cooperative process

It is now commonplace for research proposals to engage with stakeholders at an early stage, even prior to the start of the research. Yet this interaction is rarely documented, such that others may learn from the experience. Engagement of academic partners with CSO partners from its earliest stage of development was an important feature, allowing them to be involved in shaping the initial design of the CREPE project. Documenting in detail this early interaction and the subsequent cooperative processes within CREPE, through the diary contributions and reports, provided a descriptive account that may inform others' efforts at cooperative research. These descriptions also enabled the project partners to reflect on their activities and research processes.

For CSOs to engage in cooperative research projects and to lead their own research, they need to be clear what they are attempting to achieve. The literature in this area can be confusing for conventional researchers; it is even more confusing for CSOs. For CREPE partners an initial learning process enabled them to clarify their research aims.

The early partners' meetings discussed the concept of cooperative research and how it relates to similar concepts. This was important for facilitating cooperative research activities in partners' individual studies, for example, in the way they may draw in different expertise and challenge assumptions. In some respects, recognition of the cooperative processes provided an opportunity to make more explicit the participatory research activities and relationships that already existed in various contexts and forms. For example, as an agricultural extension agency, FRCIVAM was already practicing cooperative research with academics but had not previously described the relationship in this way. The CR concept has helped FRCIVAM to clarify means to extend such cooperation as a normal, beneficial feature of research. It also made apparent the challenge of generating creativity and critical analysis within the tight community of practice that they had already created.

Enabling spaces were essential for group learning and individual learning. Previous definitions of cooperative research emphasise *close* working relations between researchers and non-researchers. In practice, a variety of proximities and enabling spaces for knowledge production were apparent. The overall project, and hence group learning among partners, progressed through face-to-face meetings, skype meetings and e-mails that fostered close working relations. Face-to-face meetings in particular were felt important for establishing and fostering relationships. However, this was not always possible, nor desirable. In one partner's study (WP4) it was considered important not to meet too often and to maintain in order to keep the project and the relationships 'fresh'.

Fostering both group learning and individual learning was an important facility within CREPE. The workshops conducted by each study particularly provided enabling spaces for relationships to be formed and learning to occur as networks were fostered and/or expanded, drawing in a wider range of expertise to the studies. Workshops further enabled CSOs to engage with a wider policy and academic audience. For example, from exchanges at the workshop, particularly following advice from one academic researcher, the researchers in WP2 realised that the original idea to study a single initiative was too narrowly focused and over-ambitious. Thus the learning gained from the workshop served to re-orientate this study.

The iterative reflection process was a time consuming process for partners, particularly producing the diaries. However, documenting in detail the thoughts, experiences and processes that partners underwent, and reflecting on these activities at meetings, created space for the cooperative research processes within CREPE to be made more explicit.

'Good practice' in cooperative research

Within CREPE, good practice included the following: building a network of practice; being flexible about research plans; reflecting on our practice and documenting those reflections; acknowledging the differences between the academic and CSO cultures; and providing spaces to enable learning from each another. Especially important were the financial resources to ensure a more equitable partnership.

Our experience in CREPE highlights the diversitv of practices in cooperative research. The results indicate that partners´ roles are more varied than perhaps expected and are therefore not readily reducible to an ordinal scale of activity, proximity, involvement etc – as suggested by some typologies of participatory research. Furthermore, there is not necessarily a clear distinction between

cooperative research and conventional research methods; both may be used within a particular study.

As a broad concept, 'good practice' takes account of the many possible practices that could be called 'good', depending on the aims, contexts and participants of the research. Cooperative research processes focus on the relationships involved in different forms of cooperation. It enables researcher and CSOs to make more explicit the existing relationships, networks and ways of operating. Making them more explicit helps participants to consider how best to utilise the potential.

This diversity of research practices also has implications for any standardised guidelines, assessment tools or precise management methods. Such measures deny the complexity and specificity of cooperative activity, which needs to remain flexible and open to alternative ways of addressing issues as they arise during the research process. This complexity adds weight to the argument that there 'no simple prescription for best practice' (Huxham and Vagen, 2005: 34) – indeed, that there can be diverse types of good practice.

Diverse experiences also highlight the need to focus on processes of participation, rather than a toolkit approach that emphasises tools for the job (Reed, 2008). As a metaphor, 'tool' implies that there is a knowable task or problem that a tool can fix. In contrast, cooperative research opens up the task or problem in order to find solutions or ways forward. Reflecting on experience, as in this report, may inform others' efforts at cooperative research, allowing participants to reflect on their own unique situation in light of others' experiences.

Flexible methods

There is a general need for funding bodies and academic researchers to have greater flexibility than would normally be the case, to accommodate the particular difficulties that CSOs face. Following the initial design of the individual studies, CSO partners had staff changes resulting in changes in expertise; staff turnover was more frequent than in academic institutions. In such ways, they may be less stable than academic institutions and so need greater flexibility to overcome any problems. Working with others can enable them to find solutions, but consequently makes heavy demands on other partners, particularly the coordinator. Therefore the scope and ability to be flexible is crucial.

Most studies involved some re-design once they had begun. Most partners had to deal with events beyond their control. Where some research plans turned out to be unfeasible, especially for involving other CSOs, these plans had to be redesigned in consultation with the project coordinator. Furthermore, less flexible financial resources meant that any delays in funding arrangements or contract negotiations were problematic. Being a researcher in a CSO makes great demands on staff time and resources which need to be carefully managed.

Despite those extra demands, partners saw the benefits as outweighing any difficulties. The research activity and results helped some CSOs to gain a hearing in policy arenas. All partners noted that they had had a positive experience in CREPE; in their view, cooperative research practices have the potential to improve relationships between academics and CSOs and bring their contributions into policy arenas. As one CSO partner commented: 'The opportunity to work with formal research helped us achieve a social and thus political recognition that could not have been reached without this support' (FRCIVAM, WP4).

At the same time, intervention into societal issues does not entirely depend upon research. Indeed, much useful knowledge does not come from activity that is formally recognised as research, even if resulting from a systemic investigation. So cooperative research has important roles beyond answering research questions. New relationships extend knowledge networks among stakeholder groups, while also redefining the problems to be researched, thus opening up policy assumptions and perhaps societal futures.

Original Plan for the WP

Objectives

1. To facilitate self-reflection on the social process and methods of the CREPE project as co-operative research, i.e. collaboration across types of participants (regarding stakeholder roles, expertise, etc.).
2. To identify and facilitate ways to enhance collaborative-reflexive processes.
3. To inform and benefit other efforts at collaborative research.

Description of work and role of participants

Rationale

Through this project of co-operative research, diverse CSOs involved in a collaborative process – with each other, with experts from quite different perspectives, with other stakeholders and with policymakers. The CREPE project is designed as a reflexive social laboratory, collectively self-experimenting along several lines at once.

Such a 'collaboratory' process has been understood as a distributed knowledge-production system, in which the producers calibrate new scientific productions with stakeholders (Callon et al., 1995). This process has enabled stakeholder empowerment, e.g. in the case of information systems (Turner et al. 1995). The producers can be broadly cast, for example, when medics have worked with patients' groups in co-producing knowledge (CAFP, 2005; Rabeharisoa and Callon, 2002). Such a process can also influence research priorities.

The CREPE project has been designed to enhance collaboratory processes, understood as a social experiment in knowledge-production. Participants brought different aims and issue-framings to the project. They faced challenges in learning from each other by translating and reconfiguring (not simply transferring) knowledge. Through the project academic partners developed skills for facilitating co-operative research and benefiting CSO aims.

It was anticipated that through CREPE, some CSO participants would expand their activities from a campaign focus to research, starting from a few key individuals who already have research experience. Through this process, CSO participants would broaden their concept of the relevant issues and questions to be asked, thus going beyond the original campaign focus. CREPE aimed to provide resources for CSOs to frame research in alternative ways, so they can set the terms of reference for engagement with policymakers and officially recognised experts.

The participants within CREPE, i.e. academics and CSOs, can be understood as being part of different 'communities of practice' – each with a distinctive culture, identity and tacit rules (Wenger et al. 2002). This concept has been developed mainly to analyse and enhance cohesion within an organisation or network. The concept can help illuminate prospects and challenges in relations among different communities of practice. Productive engagement with one another may depend upon key individuals at interfaces between different groups, e.g. through communication or mobile roles across social boundaries. Engagement also depends upon mutual recognition of different expert knowledges, which may turn out to be complementary or contradictory.

Research questions

In developing co-operative research in the CREPE project, what are the various methods, practices, pathways and relationships? What obstacles and difficulties are encountered? What efforts are taken to overcome them?

Tasks

Tasks of WP leader (coordinator)

1. Literature review on the above issues.
2. Observation, comment, and discussion in the CREPE project activities.
3. Report on collaboratory aspects of CREPE for discussion at project meetings.

Tasks of all partners

1. Comment verbally on draft reports of other partners' studies at project meetings
2. Provide written comments after drafts of the report

Partners' roles

This WP was led by the OU, with some contributions from all other partners, especially diary entries and written comments on draft reports.

2 Research Activities

2.1 Cooperative research: some distinctions and overlaps

To address the economic, environmental, social and technological problems that the world faces, research cooperation is becoming widespread. Research organisations go beyond working with each another; they broaden their networks and methods to involve public, private and civil society organisations (CSOs), also called non-governmental organisations (NGOs). Co-operative research forms part of this expanding activity, which has been especially prominent in areas such as agriculture, development studies and health.

Cooperative research has overlaps with other relevant concepts – such as participatory research, partnership research and action research – which are also used to describe collaborative processes. The relevant literature has evolved within discrete fields and disciplines; each community of practice has developed different definitions and understandings for this type of activity. In recent literature in this area, the concept of partnership brings together and re-labels the many different ways of interacting and sharing knowledge; this means networking, participation or collaboration across organisational boundaries, rather than simply transferring knowledge between them.

Such aims and activities are not unproblematic. As an umbrella term, 'partnership research' has led to some confusion, even to suspicion about the nature of partnerships. In research on development issues, doubts have arisen among partners based in the global South, where research funds may depend on collaboration with sponsors in the North (Horton et al, 2009: 24).

> This re-labeling of existing forms of interaction has confused discussions of partnership and led to a degree of cynicism concerning 'pseudo partnerships', 'transactional partnerships', and 'partnerships of convenience' (Horton et al, 2009: 2).

Doubts have also arisen in partnerships with service users. They are meant to become empowered through the research process, but may find that power relationships are obscured by terms such as 'community' and 'users'. These difficulties should be seen as dilemmas arising from 'the political nature of the drive for greater service user involvement in research'. So it becomes necessary to work through the ideological issues involved (Frankham, 2009: 22). Research partnerships can stimulate self-reflection on issues which arise more generally in framing research agendas and questions.

As a concept closely related to partnership research, 'cooperative research' has been promoted with various definitions. According to a report published by the European Commission, cooperative research is a 'form of research process which involves both researchers and non-researchers in close cooperative engagement'. It requires 'constant attention to transdisciplinary engagement with stakeholders and public constituencies in order to explore the driving aims and purposes, the alternative orientations, and the wider social and environmental implications of research and innovation' (Stirling, 2006: 9, 32). Such reflection on aims and power relations helps to open up the framing of knowledge production:

> The point is not therefore that interested stakeholders or randomly recruited members of the public can be better experts than the experts. The issue is rather one of acknowledging the crucial role played by cultural values, sectional interests and political and economic power in the shaping of knowledge (Stirling 2006, page 21).

The Stirling report arose from an ongoing debate regarding the governance of science. Research practices have always been governed in the sense that funding decisions favour specific problem-definitions and priorities. However, a series of controversies (from nuclear power to GMOs), as well as changes in scientific institutions (e.g. increased privatisation), has renewed interest in how scientific knowledge is produced.

These changes have led to a sense of increasing conflicts over the uses and production of knowledge, as well as a general notion that research needs to be made more accountable to its publics. Accountability has at least two elements. First, in a world where science is increasingly privatised, there is a need to ensure some public involvement in the scientific process as a democratic imperative. Second, in light of numerous innovations that have encountered public suspicion, there is a felt need to incorporate public concerns into the scientific research and innovation process. The result, it is argued, will produce more robust forms of knowledge that are more likely to be accepted or even adopted by broader publics. On this rationale, for example,

> If citizens and civil society are to become partners in the debate on science, technology and innovation in general and on the creation of the European Research Area in particular, it is not enough to simply keep them informed. They must also be given the opportunity to express their views in the appropriate bodies (CEC, 2002: 17).

To gain public accountability for knowledge production, agenda-setting needs to incorporate substantive public participation as early as possible in the research process: 'public engagement holds greatest value when it occurs "upstream" – at the earliest stages in the process of research or science-informed policy making' (Stirling, 2006, page 5). Only in this way can public involvement serve to configure results and technoscientific products.

For all the above reasons, cooperative research needs to be more than consultation It requires 'constant attention to 'transdisciplinary engagement with stakeholders and public constituencies in order to explore the driving aims and purposes, the alternative orientations, and the wider social and environmental implications of research and innovation' (Stirling 2006, page 32). It requires that research incorporate many different kinds of knowledge – formal and informal, codified and tacit, expert and lay and so on. It requires that we value tensions and challenges involved in bringing together diverse knowledges, as well as the potential for integration (Stirling 2006, page 21). How to do this in practice? Some clues can be found in antecedents of cooperative research.

A policy document on the European Research Area highlighted cooperative research processes as a novel means to engage citizens:

> Based on the lessons from FP6, support to participation of Civil Society Organisations (CSOs) and preparation of pilot Co-operative Research Processes (CRPs) will be provided as well as training for policy makers at European level. A new instrument for the benefit of CSOs as specific groups has been created (BSG-CSOs). Co-operative Research Processes could be the embryo of a specific European way to define and implement research priorities, engaging citizens and respecting common ethical norms (CEC, 2007, Annex: 107).

A DG Research workshop on CSO involvement in research noted:

> Co-operative research encourages partnerships between researchers and non-researchers on issues of common interest. These processes entail mutual learning….
>
> CSOs seek more active engagement to define research questions rather than just being recipients of research results…
>
> Joint CSO-Research Organisation projects require investment from both sides in order to understand each other's context, jargon and culture (DG Research, 2009: 10).

The above account emphasises relations between CSOs and Research Organisations, as if that distinction corresponds to non-researchers and researchers, respectively. That correspondence may describe most transdisciplinary, participatory or collaborative projects. In bringing together academics, other public institutions and CSOs, such projects generally feature academics as the formal researchers. But CSOs too increasingly lead research, as elaborated below.

2.2 Moves towards participatory forms of research practice

As mentioned in the Stirling report, there are two overlapping trajectories that together inform current moves towards cooperative research. First, there is a move to broaden constituencies in the production, use and regulation of knowledge. Second, there is a rationale for research practices that treat people as active participants in generating new knowledge, rather than as objects of research.

Behind the concept of cooperative research lies a rich literature on more participatory approaches to research. Working in a participatory way with users is now a recognised practice in many areas of research, particularly in those where lay people and science necessarily interact, such as healthcare, development studies, agriculture and environmental management and conservation. These new approaches arose from failures of conventional practices to deliver the desired outcomes, and from the unintended effects of new innovations. Since the 1970s emerging environmental issues and agricultural issues focused researchers' attention on research methods that could embrace the complexity of such issues by actively involving the people concerned.

Thinking on ways of bringing different knowledges together has moved forward, particularly in the agricultural context. For example, the Farmers First view advocated equal partnerships between rural people, researchers and extensionists – the intermediaries between the researchers and the rural people (Chambers, Pacey and Thrupp, 1989). However, this view was criticised for assuming that there was an identifiable body of local knowledge which may be taken from its context and readily integrated with scientific knowledge (Pretty, 1994; Scoones and Thompson, 1994). The Farmers First view emphasised consensus solutions to well defined problems. It also tended to take little account of the various ways in which uneven power shaped exchanges. Although local people may have been actively involved in a project, participation could be superficial and did not take into consideration that local and non-local people may have very different and often conflicting interests and goals and an unequal access to resources. Such an approach therefore tended to devalue rural or local knowledge. A wider understanding of the importance of research that incorporates people as an integral part of a system, rather than 'adding on' the human aspects to a scientific study, therefore started to emerge.

As noted earlier, participatory research has evolved in a variety of contexts. Diverse typologies have been suggested for understanding different approaches to participation. Each suggests particular methods for enabling participation in a given context. In a review of participation in environmental management, Reed (2008) distinguishes between typologies based on different degrees of participation on a continuum; typologies based on the nature of participation according to communication flows; typologies based on their theoretical basis and typologies based on the objectives for which participation is used.

Each typology has its own critics with alternative suggestions for how it may be viewed, for example, focusing on the nature of participation, rather than the degree of participation or the objectives for which the participation is used. Regardless of what typology is employed or methods used, "few of the claims that are made for stakeholder participation have been tested", although there is evidence that it improves the quality of environmental decisions, argues Reed (2008). However, he also points out that such success is strongly dependent on the nature of the processes leading to them, as is the degree of stakeholder satisfaction – for example, ways of handling group dynamics.

In CREPE our initial thinking drew on participatory forms which include: transdisciplinary research, action research, communities of practice and networks of practice. Here we briefly explain each concept in turn.

2.2.1 Transdisciplinary research

Several authors distinguish between multidisciplinary, interdisciplinary and transdisciplinary research (for example, Vandermeulen and Huylenbroeck, 2008; Tress et al, 2007; Maasen, et al, 2006). In multidisciplinary research, distinct academic disciplines are brought to bear on a particular issue. By contrast, interdisciplinary research breaks down boundaries between disciplines as researchers work together in an integrated way. For example, scientists work together with non-scientists in order to understand a particular issue.

Transdisciplinary projects take this integration one step further. Researchers not only work together in an interdisciplinary way, but also involve broader stakeholders, so including the knowledge of those who may have a stake in practical applications of the research. Expert knowledge is thus complemented by the knowledge and experience of potential users, for example, citizens or policy actors. By involving diverse knowledges, uncertainty resulting from complex issues and imperfect scientific knowledge is reduced; the research is more likely to be useful and used, because those affected by the issue are included (Vandermeulen and Huylenbroeck, 2008). At the same time, broader societal involvement can increase disagreements and thus uncertainty about knowledge.

Likewise wider involvement is meant to design research so that it becomes more widely accountable, though this can mean conflicting criteria among stakeholders. Different stakeholders have divergent views about what is the problem at stake and how it should be solved (Maasen and Lieven, 2006). Indeed, cooperation does not guarantee consensus, and more knowledge may make issues less tractable.

Recent participatory approaches take this process further. User engagement need not mean that academic researchers and non-academics work together on equal terms. These approaches therefore emphasise the importance of research *with* people rather than research on people – mutual learning by both the researcher and others involved in the research (e.g., Reason and Bradbury, 2007; Leeuwis and Pyburn, 2002; Cerf et al., 2000). They emphasise iterative reflection on shared experiences: researchers place themselves as far as possible within the system of interest, rather than being an external observer of the system. Action research exemplifies this more engaged approach.

Some of these features have arisen in 'mode 2 science', i.e. involving wider stakeholders and knowledges (Nowotny et al., 2001). Although the term distinguishes too sharply between past (mode 1) and present practice, as if wider societal involvement were historically novel. Nevertheless the concept is helpful for emphasising that research design should recognise the following four trends:

1. The nature of mode 2 society – marked by transdisciplinarity, heterogeneity, organizational heterarchy and transcience; social accountability and reflexivity; and quality control which emphasizes context and user-dependence; and an expansion in knowledge producers and users in society (Nowotny et al., 2001, page 167).

2. The contextualisation of knowledge in a new public space. All parts of the scientific process are now considered to be context dependent. That is, rather than there being an a-social element to scientific creativity, science practice now requires greater consideration of the rationale for knowledge.

3. The production of socially robust knowledge. Reliability of knowledge is no longer based on its objective quality but on its applicability. Reliability and validity is therefore not within the remit of disciplines alone, it requires a broader sensitivity to its social implications.

4. Socially distributed scientific expertise. Mass media, mass education and the moving out of science into business, professions and government, and at the same time specialisms require collective expertise in order to address social and environmental issues. Expertise and scientific authority is not then resident within one person, or one discipline, but rather in the links that bind it together with other knowledges.

Taken together, these features point towards generating new knowledge in cooperation with non-researchers and in ways accountable to them. Yet cooperative and interdisciplinary research is about more than accountability. Interdisciplinarity is creative, not always conditioned by a pre-set interest. It can lead to new realities that are experimental, challenging and innovative. Involvement of more stakeholders can complicate the autonomy and/or accountability of transdisciplinary research (Barry et al., 2008, pages 30, 37).

2.2.2 Action research

Although Action Research in practice has a long history, it was made explicit in the 1940s by Kurt Lewin (1946) as follows: ‘a comparative research on the conditions and effects of various forms of social action and research leading to social action that uses a spiral of steps, each of which is composed of a circle of planning, action, and fact-finding about the result of the action’. Lewin elaborated the concept from workshops to conduct a 'change experiment’ about racial prejudice. Action research is closely linked to the work of Donald Schon on the reflective practitioner (Schon 1983).

As with participation and social learning theories, more recently there has been an emphasis on increased collaboration between all those involved in the inquiry, so that the knowledge developed in the inquiry process is directly relevant to the issues being studied (Reason and Bradbury, 2007). Action research has been defined as:

> …a participatory, democratic process concerned with developing practical knowing in the pursuit of worthwhile human purposes, grounded in a participatory worldview… It seeks to bring together action and reflection, theory and practice, in participation with others, in the pursuit of practical solutions to issues of pressing concern to people, and more generally the flourishing of individual persons and their communities (Reason and Bradbury 2001).

Co-operative inquiry is one example of an action research methodology originating in the work of John Heron in 1971and later with Peter Reason. Co-operative inquiry involves all those in the research as co-researchers, that is, they all contribute to the thinking, design, decision-making and management of a project, and all are also co-subjects who participate in the activity that is being researched (Heron and Bradbury, 2001).

A feature of action research, co-operative enquiry and participatory research more generally, is learning. Over recent years, *social learning* has been a significant theme in the literature on agriculture extension and environmental management (see Keen et al, 2005). Social learning may be defined as the process of iterative reflection that occurs when we share our experiences, ideas and environments with others (Keen, et al, 2005). More participatory models, often drawing on systems theories in conjunction with action research, place emphasis on how agricultural and environmental knowledge may be co-constructed (see for example, Leeuwis and Pyburn, 2002; Cerf, et al 2000; Roling and Wagemakers, 2000).

Action Research can help to develop descriptive theory, as advocated by Huxham and Vagen (2005). Data collected through practical interventions can generate ‘descriptive theory that captures the experienced world’. Immersed in intervention situations, the researcher can identify aspects that were not actively sought or aspects not seen by participants (Huxham, 2003: 246).

2.2.3 Communities of Practice

There has been a growing interest in informal knowledge processes and in particular in *communities of practice* (CoP), especially in knowledge management and innovation within organizations. This interest focuses on the networks within communities of practice, what drives them, the knowledge they produce and how to support them.

As a concept, ‘communities of practice’ is a social theory of learning. This focuses on learning within communities as the ‘basic building blocks of a social learning system’ (Wenger, 2000, p.229), as the places where competences are held. In simple terms, communities of practice are groups of people who share a common pursuit, activity, material configurations or concern. Although members do not necessarily work together, they form a common identity and understanding through their common interests and interactions. Over time, they accumulate knowledge, tools and informal bonds as they

learn together (Wenger et al, 2002). Many different communities of practice exist; we may all be members of several, for example, through our work or hobbies. For some communities of practice we may be a core member, while for others we may sit on the periphery. CoP is useful for understanding the social processes of learning and identity formation, local practice, tacit learning, sense making and indigenous knowledge.

Since the publication of Lave and Wenger's original thinking on situated knowledge and communities of practice, several other authors have applied, criticised and developed these ideas. For example, a focus on space, rather than a focus on community, has been argued for to avoid ' the difficulty inherent in communities of practice theory of talking about a group of people, rather than a space for activity, which immediately raises difficult questions about participation, membership and boundaries.' (Barton and Trusting, 2005, p,11-12).

It is also argued that the idea of CoP is being taken up enthusiastically, but the original thinking by Lave and Wenger is being forgotten. Their way of understanding learning in practice – emphasising processes, ambiguity, disagreement and social interaction – is being lost. It is suggested that there is a need to return to the use of the concept as developed in Lave and Wenger's publication on Situated Learning (1991) where it was used as 'a way of understanding learning in practice, rather than (in the way it has often been taken up more recently) as a top down educational model, which paints a relatively uncritical picture of the academic community of practice' (Barton and Trusting, 2005, p.11). Thus recent emphasis on homogenisation of social practices, formulaic distillations, or top-down approaches, whereby practitioners attempt to artificially foster communities of practice has led to the argument that the original concept needs 'reclaiming for its heuristic value' (Lea, 2005, p.181).

2.2.4 Networks of Practice

Theories about social networks have been expanded from communities of practice to 'networks of practice'. This distinctive concept recognises that similar practices may be shared by individuals within and outside an organisation. Social proximity depends on much more than geographical location per se: 'varieties of situated knowing come in different spatial forms, showing that relational proximity is not reducible to co-location' (Amin and Roberts, 2008, p. 354). Networks of practice have the same features as communities of practice (their subset) but may have weaker ties. What binds the network together is shared practice; extensive shared practice leads to extensive shared know-how (Brown and Duguid, 2000, 2001; Hustad and Teigland, 2005). Members of a network of practice may never meet or know each other. yet they share a common culture and activities; they are capable of sharing knowledge and social identity. While a community of practice is where the creation of new knowledge and meaning occurs, a network of practice is where fast diffusion and assimilation of knowledge occurs across more practitioners (Hildreth and Kimble, 2004). Networks of practice can be built by engaging in shared problem solving Wenger et al, 2002). These ideas have been taken up by a number of authors in a variety of contexts (see Oreszczyn et al, 2010), although there is no clear conceptual framework for networks of practice (Whelan, 2007).

In organisations, networks of practice are often seen as offering a competitive advantage as they are capable of combining knowledge in new ways by drawing together different communities of practice to promote knowledge sharing and creation (Hustad and Teigland, 2005; Whelan, 2007; Vaast, 2004). However, as with communities of practice, the sense of belonging that comes from mutual engagement, joint enterprise and shared repertoires within a network of practice can make knowledge flows between networks difficult.

As an important feature, boundaries potentially link different communities or networks of practice. New opportunities for learning and fresh insights often occur at these boundaries. However, they may also act as barriers to knowledge exchange (Wenger et al., 2002). Boundaries are often unspoken or undeclared; they may be created through sharing practice with people who are either included or excluded according to their competences. They may offer one-way or two-way connections, whereby 'brokers' play important roles as *boundary spanners* (Williams, 2002). Shared boundary objects – such as a common language, a shared process or shared tools – can also act as bridges if they are not misinterpreted or differently interpreted. A sense of social identity also influences associations and practices across boundaries.

At the same time, conflict more likely occurs at boundaries than within a community of practice. It is therefore important to engage with the differences that may occur at boundaries as well as with the common ground within them (Wenger et al., 2002). This importance of diversity and difference has also been noted by other authors. For example, Argyris and Schon (1978) argued that differences are fundamental to innovation and learning. Baker (2002) stresses that learning works best when there is difference and diversity. Wyss-Flamm (2002) note that this difference drives people to learn, as it stimulates their curiosity and makes them aware of what they do and do not know. For the relevance of these concepts to CREPE, see sections 2.4.2 and 3.2.2.

2.2.5 Summary: new arrangements

In sum, research activities have expanded cooperative relationships – variously known as participatory, cooperative, partnership or transdisciplinary research. Such expansion requires new institutional arrangements and potentially radical changes to the way organisations work together. In parallel, perspectives on researchers working with others are evolving in different disciplines, each drawing on its own body of literature.

This literature has moved beyond arguments for involving more people in research, towards discussions around how to foster successful working relationships, amidst various opportunities and difficulties. Recently this diverse literature has been brought together under the 'research partnership' concept. Such international partnerships are expected to expand, e.g. for research on development issues (Horton et al, 2009).

This section has briefly surveyed some literature that has informed the development of the CREPE project. By drawing on the above concepts, the CREPE WP8 findings offer a practice-based contribution to the literature on the process of research collaboration and partnerships, especially on CSOs' diverse roles in research. The following sections analyse cooperative structures and processes within CREPE.

2.3 Aims and structure of CREPE

The CREPE project draws on and extends the concepts outlined above. The content and processes of research are linked in the overall aims, as follows:

1. Capacities: To strengthen CSOs' capacity to participate in research, while engaging with diverse perspectives and expertise – thus facilitating co-operation between researchers and non-researchers, as well as between academics and CSOs.
2. Co-operative research methods: To design and test the methods used for co-operative research, as a basis to inform future efforts.
3. Sustainability: To analyse diverse accounts of sustainable agriculture in relation to agricultural methods, technologies, innovations and alternatives.
4. Priority-setting: To relate research more closely to societal needs, as a means to inform policy debate and research priorities for Europe as a 'Knowledge-Based Society'.
5. Solutions: To suggest alternative solutions related to different understandings of societal problems, agri-environmental issues and sustainable development.

The overall structure involves both the academic and CSO partners carrying out studies; as *researchers*, they share complementary knowledge and perspectives, without necessarily working together on a common topic. Each study focuses on a different agri-environmental issue, while the overall project has taken up generic themes (such as sustainable agriculture) which span the individual studies. Each study 'involves both researchers and non-researchers in close cooperative engagement' (Stirling, 2006); that engagement is developed mainly by CSO partners as researchers who further involve various stakeholders, some of whom are also researchers.

Within that basic structure, the CREPE studies have been doing co-operative research in various ways. Each study has been co-building relevant knowledge through cooperative research – by working with others, rather than on others. There is a commitment to recognising diverse experiences, knowledges, practices and problem definitions. CREPE partners have been drawing on different types of knowledge, external expertise and participatory relationships according to their topic. CSO researchers have been learning about co-operative research and gaining common understandings as they carry out the activity.

The CREPE project brought together CSOs which had been working with stakeholders in their own networks of practice and so were already engaged in cooperative research activities. In this project, their studies varied in ways reflecting the thematic focus, organisational culture and strategic perspectives of each CSO partner. See the table in Appendix 1 for brief descriptions of the various studies within CREPE. The TNI study of 'agrofuels', adopting this pejorative term for biofuels, involved mainly CSOs and social movements which had an affinity with TNI's critical perspectives (WP1). For the study of water scarcity, two CSO partners together built networks including all relevant stakeholders. Their discussions were meant to clarify current practices and future options for improvement, especially through greater cooperation among stakeholders (WP3). FRCIVAM, as agricultural extension agents, had already worked with academics in order to research the practical issues of farmers in short food-supply chains; its extra study for CREPE was designed and used to influence policies of local authorities (WP4). In such ways, WPs 1-6 have developed and extended wider CSO networks, partly through their workshops.

In those ways, the CREPE project was an *experiment* in co-building knowledge. Partners tried out methods – and then discussed with others what worked well, how it worked, what failed and what could be improved. In some cases, the researchers anticipated difficulties in gaining CSOs' cooperation in the original plan (among other difficulties) and so changed the plan, e.g. for WP2 and

WP6. This practical engagement in CR, followed by reflection and evaluation, has taken place on two levels: the *first* is to share information, ideas and experiences of doing cooperative research in the specific thematic studies, structured as work packages 1-7. The second is to work together to evaluate our own cooperative practices as a project team. The following sections describe, discuss and analyse the processes we went through.

2.4 Methods and processes of WP8

Working in a grounded way, the WP8 leaders worked with partners to assess and evaluate the processes within CREPE. The tasks this involved are outlined below:

For the WP leader

- To provide guidance to partners on appropriate literature that may inform their cooperative practices
- To facilitate discussion and reflection on cooperative processes within each work package and within CREPE
- To observe, gather and collate experiences of cooperative research in each of the other work packages throughout the project.
- To initiate and lead development of practical-based assessment of the cooperative research processes

For all partners

- To record and communicate cooperative practices in order to share with project team
- To contribute to an evolving and practice based understanding of cooperative research
- Comment on draft reports of other partners' studies at project meetings
- To comment on draft reports.

As noted earlier, the cooperative processes within CREPE operated both at the level of the overall project, where partners are working together to deliver the CREPE project, and at the level of the individual studies that each partner carries out. The following sections discuss both levels.

2.4.1 Project development: origins and Coordinator's role

Preparation of the proposal

At the early stage in formulating the project proposal in early 2007, partners were somewhat aware of cooperative research, though not necessarily by that name. They had varying experiences of undertaking such activity, either by leading studies or participating in them. They all wanted to become more involved in research cooperation among CSOs.

CSOs participating in CREPE were involved in shaping its initial design, before the proposal was submitted to the European Commission. From autumn 2006 onwards, the Coordinator contacted many CSOs in order to discuss their possible role in such a project. This phase featured discussions among prospective participants. Les Levidow (later the coordinator) and one of the prospective WP leaders attended the first meeting of the EU-funded STACS project in early 2007, to become more familiar with ways to structure such a project. Les subsequently approached to a wide range of CSOs on diverse topics, but few responded with a clear research topic. The CSOs that were strong candidates already had some experience in research on agri-environmental issues, so this became a thematic focus for Les to find additional partners, e.g. FRCIVAM. For the water scarcity topic, FEC found the FNCA as an additional partner.

Eventually six CSOs were chosen as partners for the project. In early 2007 each WP plan was developed through discussions between the CSO and the Coordinator, in the run-up to the May 2007 deadline for proposals. For example, for the WP1 agrofuels topic, Willem Halffman (an academic partner), attended meetings at the TNI office in Amsterdam; in parallel, Les Levidow held a brainstorming session in London with biofuel activists to develop a research approach to EU policy assumptions. Draft texts were circulated between him and TNI to develop the WP1 plan.

Implementation:

In some cases (for example, WPs 1 and 2), staff members who are now centrally involved were less involved at that earlier stage, e.g. because of later changes in staff or thematic focus. Therefore more work was needed to develop the plan after some of the projects began. Further, the original plans for WP2 and WP6 clearly became unviable after the project began, so these were recast cooperatively with the Coordinator. The original structure allocated 1 or 2 person-months for the Coordinator's role in each WP led by a CSO, without a specific plan for that role. The Coordinator's contribution was developed through discussion with each partner after the project began.

Project-wide advisors

In addition to advisors on specific studies, project-wide advisors were established at an early stage. Andy Stirling gave advice early on, e.g. about types of stakeholders who could play advisory roles. Helen Holder of FoEE attended the first CREPE meeting and gave comments from the standpoint of CSO campaign activities. Richard Worthington, of the Loka Institute in the USA, had a long experience in working with CSOs and community-based research; he gave advice on the original proposal for the CREPE project. Later he sent comments on the draft WP8 report, e.g. suggesting that we ask partners about the implicit or explicit politics of their research; see the resulting sub-sections in section 3.1 of this report.

Advice on draft reports also came from two other advisors: Piet Schenkelaars, a consultant with long experience of working with CSOs; and Silvio Funtowicz of the Joint Research Centre at the European Commission. They both attended CREPE meetings in an advisory capacity. A project officer from the European Commission also attended the project meetings.

Interchanges with FAAN project

The CREPE project had analogies and interchanges with another research project, 'Facilitating Alternative Agro-Food Networks: Stakeholder Perspectives on Research Needs'. Both were funded under the same FP7 call for cooperative research, and both included a specific study on their own cooperative processes, especially the relations between academic partners and CSOs. As a partner also in the FAAN project, the CREPE Coordinator exchanged draft analyses across the two projects, so that each could benefit at an early stage.

Early on, FAAN partners were asked to explain their motives and expectations for participating in such a project. They especially welcomed the working relationship between academics and CSOs. They expected several benefits: CSOs' views would gain influence in research designs and questions, academics would orient their research towards practical issues of CSOs, and the joint activity would build a cooperative network linking researchers and civil society. Together the partners would foresee and prepare future interventions into policy issues (Karner et al., 2008: 13ff).

These expectations related to the specific structure of the FAAN project. Each national team had an academic and CSO partner working closely together on a common study. Transversal analyses were led by academic partners. In the CREPE project, by contrast, each CSO partner had the responsibility to lead a study.

As another structural difference, all FAAN partners contributed to a common theme and analytical task, so the cooperative process had to address potential disagreements from the start. The discussions explicitly identified these through a differentiation process, as a basis for subsequently integrated diverse views (Karner et al., 2008). By contrast, CREPE faced nearly the reverse task: how to integrate diverse topics and approaches into a project-wide analysis.

2.4.2 Enabling spaces within the project

Partners' meetings

Partners' meetings were held on four occasions, organised by the CREPE coordinator. A draft agenda was circulated for each meeting and project partners were invited to send their suggestions. Most of the project meetings was conducted in a conventional way, so that partners could present and receive comment on their studies; likewise to discuss management of the project. For the discussions about the cooperative aspects of the project, the meetings were conducted in a more participatory way to foster good working relationships and encourage mutual learning. For example, the first meeting heard a presentation on cooperative research by one of the more experienced partners in this type of research; then partners divided into pairs and were asked to interview each other about their work and to share experiences about any cooperative research they had been involved in. The interviewee then presented their findings to the other partners.

The interviews followed a standard list of questions designed to elicit partners' reflections on cooperative research from previous experience and some expectations for CREPE:

1. How have you already been involved in producing knowledge cooperatively – between academics, other experts, CSOs, social movements, etc.?
2. How were the relationships structured and organised?
3. How was the research designed as an intervention and/or for a subsequent intervention?
4. What were the strengths and weaknesses?
5. From that experience, what are your expectations for the CREPE project regarding cooperative research?

These reflections contributed to the later analysis of cooperative processes.

In the second meeting partners worked together on a force field analysis to evaluate their experiences of cooperative research. This activity drew out driving and restraining forces for cooperative research, see Appendix 3.

These partners' meetings were an important part of the cooperative process. They highlighted several issues: the need to clarify relations between researchers and non-researchers, especially for a CSO which may play both roles in different contexts; the importance of space for meeting informally and socialising; the need for more clarity on what counts as cooperative research; how CSOs will engage with policymakers; the differences in partners' experience of participatory processes.

Other meeting spaces

Beyond face-to-face meetings, close relations were fostered through Skype conversations and e-mail exchanges. A website provided a space for circulating documents and keeping one another informed of any relevant material. All these features provided an enabling space for the partners' relations.

Enabling spaces in CREPE facilitated engagement with each other in common activities, such as reflection on our cooperative experiences. This served to establish a network of practice among the CREPE partners. In turn these joint activities built trust, an essential component of any successful community or network of practice. Networks of practice within the partners' studies is discussed further in section 3.2.2.

2.4.3 Developing transversal perspectives on sustainable agriculture

Work packages researched different topics and so were independent of each other. At the same time, all the topics related to agri-environmental issues and sustainable development, so partners were able to draw on one another's expertise and compare their results. From all those studies, the project aimed to draw overall conclusions on options and research priorities for sustainable development. Such conclusions were necessary to fulfil the project aims, which included:

> Sustainability: To analyse diverse accounts of sustainable agriculture in relation to agricultural methods, technologies, innovations and alternatives.
>
> Priority-setting: To relate research more closely to societal needs, as a means to inform policy debate and research priorities for Europe as a 'Knowledge-Based Society'.
>
> Solutions: To suggest alternative solutions related to different understandings of societal problems, agri-environmental issues and sustainable development.

Towards those aims, the studies were integrated in several ways: The project developed a transversal perspective linking the various studies on issues of sustainable agriculture. The Coordinator analysed contending accounts of sustainable agriculture, by drawing on EU-level policy and stakeholder documents (see Appendix 5). The Coordinator also suggested ways to make these accounts more explicit in the various WP studies. Each consortium meeting had a session on those over-arching issues, including an exercise for comparing the various studies, as regards divergent accounts of sustainable agriculture. Partners commented on the Coordinator's draft analysis. This document helped to link partners' conceptual thinking, as well as informing each study. WP reports had a section on 'Relevance to the overall project', especially for the sustainability issues. In summer 2009 the partners clarified how their WP studies relate to the three project aims listed above; these texts were combined and then circulated as a 'Generic Issues' document.

Thematic discussions on sustainability also opened up the original research questions, which became suitably more complex. The Coordinator's document had implied that different policy agendas or accounts of sustainable agriculture correspond to different institutions. As our discussions indicated, however, divergent agendas were operating within some institutions, or such accounts remained implicit or elusive, e.g. as a means to avoid political conflict (e.g. WP4).

As another overlapping issue, some topics featured technological solutions for agri-environmental problems. Dominant agendas were proposing innovations for more efficiently using natural resources to enhance sustainability (e.g. WPs 1, 3, 6, 7). In our studies, these solutions were critically analysed as techno-fixes, evading the fundamental sources of unsustainability. This critique became explicit as a generic topic linking those studies in our transversal analysis.

Such discussions were central to the CR aspects of the overall project, as well as to the transversal project-wide report. Eventually this analysis formed the basis for the Brussels workshop on knowledge for sustainable agriculture (CREPE, 2010).

2.4.4 Reflecting on processes

As noted earlier, reflection is an important and on-going process in this style of research.

<u>Reflecting on interactions between partners</u>

A feedback session was included at the end of each project meeting so partners were able to reflect on the meeting process and the outcomes. These sessions were structured around the following questions:

1. How well did the meeting facilitate a process of cooperative research?
2. How well did the meeting identify and clarify key issues for the various Work Packages?

3. How well did the meeting identify and clarify core themes for the overall coherence of the project?
4. What were the strengths and weaknesses of the meeting?
5. How to improve future meetings?

Partners were invited to send any further comments or thoughts they had following the meeting to the coordinators. Minutes from the meeting were written up and partners were invited to make further comments.

Processes in the individual studies

As noted earlier, the individual studies within the overall CREPE project presented a range of approaches which varied in the ways and degree in which they may be viewed as being cooperative. Partners also had a range of experience in doing this type of research, and also came from a range of different backgrounds, although most had some kind of academic background. The table in Appendix 1 lists the research activity of each partner. In all cases social interaction tended to be through informal networking, using well-established contacts and existing networks. Where interviews with officials have been carried out, this has been a more conventional, formal relationship between researcher and researched (e.g. WPs 1, 3 and 7). At the same time, this groundwork with interviewees facilitated their participation in workshops, e.g. in Almeria and Brussels (WPs 3 and 11, respectively).

Some partners' topics fit neatly into participatory research traditions and can draw upon a long history of such practice. For example, the farm-based work led by FRCIVAM is rooted in a rural sociology which has clear expertise in developing cooperative forms of knowledge. In addition FRCIVAM was explicitly concerned with community learning.

> "We were used to co-operating with academics from universities or higher schools through co-orientation of students. We had also been involved in a former project, named "direct sales Brittany Japan", working on a comparative vision. This is a formal classical research project, and we had been invited because we could help in identifying experiences and actors. We had met some researchers whose appetite for co-operative research was evident – though we didn't use this word, still unknown for us " (FRCIVAM Sept, 2008)

Given their experience, the CR concept has helped FRCIVAM to clarify means to extend such relationships as a normal, beneficial feature of research. Those working on land use change, as in WP1 on agrofuels, have developed user group participation, social learning and exploration of stakeholder governance practices. For those who were not used to researching in a participatory way, CREPE provided a space for them to learn new methods.

<u>The diaries</u>

All partners agreed to keep a 'cooperative research diary' (see Appendix 2) on how they handled CR aspects of the individual WP studies. Entries were sent to the coordination team bi-monthly.

Initial questions were as follows:

- **Who** to cooperate with and how to choose? Other CSOs, publics, academics, networks. What issues inform the selection of co-researchers?
- **How** to develop cooperative research (through workshops – anything else? Methods and techniques)? What works well, what works less well?
- **How** to keep cooperation focused at the same time as opening broad, upstream questions as to how to proceed?
- **What** kind of cooperation is envisaged (tight, loose, open, closed…)
- **When** will cooperation take place (as early as possible, as frequently as possible – limits, practicalities?)
- **What** is the aim of the cooperation being undertaken? (normative (empowering people and democracy), substantive (making better knowledge, or empowering a situation), instrumental (to develop greater trust and credibility?)
- How to **evaluate the research** –how do you know it has gone well (everyone agrees? Research questions change? Numbers of participants grows? Diversity of participants grows? Better and/or more credible knowledge?) How do we measure, monitor these? Can we develop or generalise criteria for cooperative research?

Partners were also encouraged to record more descriptive accounts, recording activities, conversations, difficulties, tensions, excitement and so on.

2.4.5 Organising workshops

As a common element across the project, each CSO held a stakeholder workshop. The workshops had several potential aims – e.g. presenting research plans or preliminary results to relevant stakeholders, obtaining their comments, attracting their longer-term involvement in the research, strengthening its relevance to them and informing the rest of the research. Some workshops also

involved experts with experience in the topic under study as a means to gain their advice or longer-term involvement.

The workshops were also designed to develop cooperative research. Most CREPE case studies are led by civil society organisations (CSOs), which thereby play research roles in relation to other stakeholders. In most workshops the participants featured CSOs, some of which also carry out research, as well as individuals from other organisations. In one case (WP3) the participants were mainly agencies and businesses involved in agricultural water issues. For more detail, see the relevant sub-sections in section 3.1

Towards the end of the CREPE project, two project-wide workshops were also held – one on the EU-level policy issues, and the other on the cooperative research processes. Both encouraged wider comment by stakeholders on the findings of the project and helped to inform the final reports.

The workshop reports may be found at http://crepeweb.net/?page_id=191

2.4.6 Reflecting on the overall experience

Towards the end of the CREPE project an exercise was conducted whereby partners were asked to reflect back on their experience of participating in the project. This was done through a questionnaire (see Appendix 4) sent to individuals and the responses subsequently formed the basis for a discussion at the following partners meeting. This exercise was adapted from the work of McDowell, et al., 2005 and the Centre for Reflective Community Practice, Massachusetts Institute of Technology (MIT), who have developed a methodology (Critical Moments Reflection Methodology). CREPE partners were asked to reflect on what were the 'critical moments' for their study and the most important element (or elements) from their experience of working on CREPE. Such critical moments could be moments of change when situations or feelings became better or worse, or turning points, either good or bad. They could be surprises; the emergence of a difficult problem; the solution of a difficult problem; the visualisation of new futures/possibilities; the disturbance of a strongly held belief; the achievement of highly desired objectives; the change in a key component of the context of your research; the emergence of threats etc (www.kstoolkit.org/file/view/Critical%2BMoments%2BBrief.ppt).

In this reflection process partners were also asked to comment on the key lessons learned for their research, their organisation or for themselves personally; how what we had done together may be improved on; if they had suggestions for future efforts or they felt there were aspects of doing cooperative research that needed further investigation. They were also asked to consider whether or how working on CREPE had fulfilled their expectations.

2.4.7 Policy relevance

The project design and coordination encouraged partners to build a policy relevance into their WP study, especially by identifying policy assumptions and questioning them. A preliminary analysis was tried out on CSO (or wider) networks, especially through the individual WP workshops approximately half-way through the project. This interaction was expected to make further research more relevant to policy issues and to stimulate other CSOs to use the results in their campaign or advocacy activities. So far, such usage has been clearest for the few partners who already carry out such activities (e.g. WP3).

Interactions with policymakers were also built into the project. This was done through a Brussels workshop on agricultural research agendas (CREPE, 2010), as well as the WP3 workshop on water management. The workshops had a clear value as a research tool, e.g. by revealing convergent or divergent approaches among participants, as well as for reconsidering our research questions. Any influence on policymaking may take subtle forms that need more follow-up through investigation and interaction. If key individuals or policy agencies are anyway seeking or moving towards new approaches, then our study offers practitioners some opportunities for self-reflection on such directions.

The following sections present key points drawn from a synthesis of the findings from the reflection processes carried out during the cooperative research.

3 Results

Our aim has been to encourage cooperative research practice and to reflect on such practices in order to refine understanding.

The CREPE project had a wide variety of activity – as regards types or levels of engagement, research topics, expertise and experience of doing cooperative-type research. There have also been different degrees of progress in terms of the planning, recruitment and conduct of the research. Some CSO partners were building on previous capacities, projects and networks, thus more easily making progress; some CSO staff already had much experience in formal research projects. Other CSO partners were building new capacities and networks, or they encountered difficulties that led to changes in the research plan, so they needed more time to plan and carry out the research.. In CREPE, the cooperative research emerged as a complex set of practices, combining together a variety of roles and identities, relationships or social interactions, processes and practices. Partners gained benefits but also faced challenges to overcome.

As noted earlier, the cooperative processes occurred both at the level of the overall project and within the individual studies. The following section first discusses cooperation within the individual studies and then discusses cooperative processes within CREPE more generally.

3.1 Various co-operations within individual studies

The following sub-sections examine the co-operative relations, research designs and policy aims in each work package.

Each sub-section addresses some of the following questions:

Useful research and importance of their study: How have CSO partners understood the potential utility of research? In general and in this project? How did the CSO see their study as important to their organisation?

Relevant knowledge: How did CSO partners anticipate the types of knowledge that would eventually help to achieve their aims? How did they design the studies accordingly? How did this design play out in practice? How was it adjusted with new understandings of relevance?

Relationships to other participants, knowledge production and mutual learning: To produce the knowledge that was envisaged, how did CSOs depend upon and design relationships with other stakeholders? What was the knowledge-exchange and mutual learning with them? How did this relation depend upon a common language or terminology? How was this found or created?

CSOs as research organisations: How did each partner deal with its multiple identity/role as both CSOs and researchers? How did they experience this combination as a problem and/or an opportunity?

Research as implicit/explicit politics: How did each CSO anticipate opportunities to exercise influence or power for societal change? What was the implicit politics of their research designs, questions and methods? (in relation to points above) How did this politics remain implicit or become explicit? e.g. a pretence of neutrality, or an open acknowledgement of aims, or a strategic ambiguity? How did they anticipate or deal with sceptical-positivist responses to their authoritative status as researchers?

Those questions are adapted for WP 5 and WP7, led by academics. Some of the text below is based on information from the relevant partner – e.g. from WP reports, diary entries or Generic Issues document. Some is our interpretation. Partners were invited to correct or expand the account of their WP.

3.1.1 WP1: Agrofuel production in Europe and global South

Transnational Institute (TNI, Netherlands)

Useful research and importance of their study:

Led by a CSO partner, this study compares EU policy assumptions about biofuels with experiences in case study countries as a basis to challenge the assumptions and suggest alternative priorities. TNI's Rural Politics programme already saw biofuels as a central issue. CREPE provided the means to extend their networks. TNI expected their study to fill gaps in research and information, with the aim to inform CSO advocacy campaigns on biofuels.

Relevant knowledge

TNI's study attracted activist-researchers from many backgrounds, which included the following: academic scholars and scholar-activists, CSO-based activists and development NGOs working in areas such as land rights, environmental justice, human rights, food sovereignty etc. Their common concern was corporate-driven agrofuels and their social and environmental impacts. Different organisations were drawn in at different points throughout the study. Three local researchers were selected for their expertise, as well as their embeddedness in social movements in Brazil, Mozambique and Germany.

As the first step, the core team developed a framework paper analysing EU policy assumptions in the light of critical perspectives. This paper drew upon diverse documentary material, including EU policy documents, political theory and NGO reports about land issues. This was meant to provide a basis for the three local researchers to focus the case studies later in 2009.

For the OU's contribution to the framework paper, the CREPE coordinator identified extra EU policy documents, interviewed several staff members of the European Commission about policy assumptions, circulated a summary analysis to Commission staff, obtained helpful comments from them and then refined the CREPE analysis of the EU policy framework – which turned out to be a somewhat self-contradictory and fragmented compromise, as well as a 'moving target', rather than a coherent policy. A clearer analysis was meant to ensure that the case studies would test EU policy assumptions.

For the workshop held in Maputo, key local CSO actors were brought together through TNI's own networks, through known contacts and through 'snowballing' others. These were further extended through the workshop itself, which brought together 50 participants from 15 different countries. Participation was first sought on the basis of the Brazil and Mozambique case studies. Additional participants were then sought from human and environmental justice groups based in Europe, others from transnational networks and activists more widely from Latin America and Southern Africa. Participants became involved in various ways – as informants, as workshop participants, as part of the research team, as part of brainstorming sessions, formal consultations or informal discussions and so on.

Relationships to other participants, knowledge production and mutual learning

TNI viewed co-operative processes as central to their study within CREPE. The core researchers directed much effort to draw people into their study and ensure a good co-operative relationship "characterised by respect, generosity and mutual learning" (Diary Dec.09).

In working on CREPE, TNI shifted its attention to process as well as outputs. This has reaped mutual learning benefits, e.g. by 'pushing the mutual learning far beyond the sum of the parts (Diary Dec.09). But it has also brought challenges, particularly with regard to organisation and coordination, especially among the three case studies. For an organisation with limited resources it is not easy to maintain relationships through regular communication, to collect, collate and analyse large amounts of information, and to monitor all the potential outcomes of the interactions during the study.

Importance of the workshop

The Maputo workshop was entitled 'Global Agrofuels: Sustaining What Development?'. For TNI the workshop was an opportunity to develop links with activists – "to learn from their experiences across many contexts and to anticipate how our research could help to re-open the policy debate". The workshop aimed to broaden and deepen debate around agrofuels, as well as to foster active participation among grassroots activists in the environmental and agrarian justice movement. The CREPE agri-fuels study was used as a reference point to deepen links between activists and researchers and to form a basis for joint research and advocacy across countries.

The workshop served to consolidate relationships within the TNI core research team, which had previously met only once in September 2008. The workshop also helped to bridge the gulf between academic and CSO cultures. After the first day, workshop participants felt marginalised by the academic tone of some presentations, and by the little time available for discussion. As a remedy, TNI drew on participants with more expertise and experience in facilitating group discussions. They were mandated to restructure the workshop programme mid-way to make it more participatory and suitable for everyone involved. The greater involvement of participants in shaping the workshop methodology and flow served to "sharpen the quality of the discussions" and strengthened mutual learning.

As comments from workshop participants demonstrated, bringing together and sharing experiences was an invaluable learning experience – not simply for the leaders of the study, but also for those participating, as noted by one participant: "My expectations were fulfilled. I learned more about agrofuels and what is the situation in Mozambique and Brazil. Its clear there are many other groups and that my organisations is not alone, that we can have allies and make more contacts to move ahead" (WP1 Workshop report).

The workshop broadened their topic of study beyond agrofuels to include the complex interactions between energy, food and land. Bringing in new, diverse perspectives helped to open up new ground. An important additional perspective on global agrofuels came from peasants in Mozambique who suffered widespread poverty and little access to electricity – even though the country exports hydro-electricity on a large scale. This was an extra perspective, beyond the original plan to focus on disadvantages of corporate-led agrofuels (see WP1 Workshop report). It raised new questions: Under what conditions may agrofuels benefit rural communities? The workshop also opened up discussions about the potential role of non-industrial biofuels in alternative energy models based on local needs.

Although the workshop activities over-extended TNI's resources, it helped to go beyond the original focus – i.e. biofuels EU policy – and to bring in new perspectives (as above). The participants held broader interests which were reflected in discussions. The workshop also served as a catalyst for further activities by participants in their own countries and deepened relationships with peasant leaders. However, it remains difficult to monitor how participants have taken up ideas from the workshop activities, as TNI notes.

CSOs as research organisations

For a long time, TNI has worked with other organisations which likewise do research relevant to CSO campaigns. In particular the Rural Politics programme worked with other groups doing North-South cooperative research on land issues. The three researchers for the case studies were based in FIAN (FoodFirst International Network), which had already published research reports. Likewise its partner organisations in the global South, as well as some African groups attending the workshop.

"The distinction between researchers and others was not that significant" (David Fig, Dec09 diary)

Research as implicit/explicit politics

Agrofuels or biofuels?: In the early debate emerging in 2006, CSOs antagonistic to EU biofuels policy adopted the pejorative term 'agrofuels' as a means to distinguish between agro-industrial systems versus the earlier proposals to use organic waste for 'biofuels'. The term 'agrofuels' has been effective in stimulating debate and putting EU policy on the defensive. However, the TNI team eventually had doubts about using the term in its report and other publications – partly because the title may be missed by search engines, and partly because it is inaccurate to describe 'agrofuel policy'. This terminological question was discussed as a strategic issue at an academic workshop hosted by the *Journal of Peasant Studies* in October 2009 and attended by some of the WP1 team. Ultimately the journal decided to use the term biofuels, while also pointing out the above distinction in the debate. The CREPE team followed that convention when submitting a paper to the journal, while still emphasising 'agrofuels' in its own WP1 report.

Research design and questions: There were two major difficulties in designing the research, especially so that it could more readily inform interventions into the EU policy system. In early 2007, CSOs had diverse stances towards the EU targets for 'sustainable' biofuels and the prospects of sustainability criteria as a possible way to limit damage from biofuels. The EU system was moving towards new legislation that would resolve those issues, at least temporarily. So somehow the research design had to anticipate prospects for CSOs to intervene in the EU policy system two or three years after the CREPE proposal was submitted in May 2007. As a research strategy, the design focused on EU policy assumptions by making them more explicit and then testing them through case studies. This design could bypass CSOs' disagreements and give them weapons for possible interventions in 2010 and beyond.

3.1.2 WP2: **Community-supported agriculture** in Italy

Fondazione dei Diritti Genetici (FDG, Italy)

Useful research and importance of their study

In the original research plan, this study would examine prospects and blockages of CSO participation in agbiotech issues, yet the policy framework and consultation procedures excluded CSO concerns. Such conflicts became more obvious to the FDG's predecessor organisation, which was completing an FP6 project on that topic (CDG, 2008). Consequently the researchers anticipated difficulties in gaining CSOs' cooperation in a follow-up study within the CREPE project. To avoid those difficulties, a new research plan was developed with advice from the CREPE coordinator. The partner eventually changed the topic to CSO participation in building positive strategies for sustainable agri-environmental development.

Relevant knowledge

To achieve that aim, FDG set out to study a peri-urban Community-Supported Agriculture (CSA) initiative – the Rome *Orti Solidali* – especially the roles of other CSOs which had made prior commitments to help its development. This study sought to assess new ways of reconnecting urban

people to agri-food production, as a basis to bring this knowledge into policy and research priorities. The study also aimed to promote knowledge sharing among participants – i.e. paid workers and subscribers who regularly obtained food boxes from the *Orti Solidali.* The partner has been developing methods for evaluating its environmental, economic and social sustainability.

The *Orti Solidali* initiative initially arose from networking between CSOs from various fields such as social inclusion and scientific research, a farm co-operative and FDG. As the study has progressed wider expertise has been drawn in – other CSOs, academics interested citizens and volunteers. The workshop in particular drew in other stakeholders with expertise in this type of community project (see below). FDG have also drawn on the expertise of FRCIVAM (the CREPE partner leading WP4) on how to design the economic and environmental evaluation of their study.

Relationships to other participants, knowledge production and mutual learning

The WP leaders hoped to gain an insider's view by working with organisers of the *orti solidali*. Participants in the study included subscribers who contribute labour, academic experts and advisors with expertise in sustainability and urban agriculture. Trainees from a local course in sustainable agriculture anyway planned to collect scientific data on the *orti*, so they worked with the researchers to contribute to the design of the research plan. However, in its first phase, few subscribers contributed labour to the *orti solidali,* thus making it difficult to involve them.

Importance of the workshop

Given the difficulties that this study was experiencing, the workshop was a way to draw in a wider group of stakeholders, with expertise in local food systems (LFS), to help find solutions and to develop the CSA network. The workshop involved 25 participants – including academic experts, national CSOs and local groups involved in LFS initiatives, in addition to the subscribers to the *orti*. All had direct experience in experiments of urban agriculture; none from outside Rome had been in contact with each other beforehand. As the study leaders note, "We came out with bits of informed-practical knowledge on all aspects related to LFS in urban areas – especially lots of knowledge on how to set up practically an LFS, together with the legal background and expert advices on sustainable urban planning" (Diary Dec. 09).

From the interests of other CSOs, academics interested citizens and volunteers at the workshop, an unanticipated outcome was external advice for the study. This enabled a focus on the CSA as good agro-environmental practice for degrowth, i.e. satisfying societal needs while reducing economic activity. Thus a new focus was brought to the research.

From exchanges at the workshop, particularly following advice from one academic, the researchers realised that the original idea to study a local CSA initiative was expecting too much from one case and thus too narrowly focused. Learning gained from the workshop has served to re-orientate this study towards analysing several CSA initiatives throughout Italy, alongside a literature review.

Back-to-back with the workshop, moreover, a national meeting of local food projects provided a temporary 'community of practice', which had some potential to continue beyond the CREPE study. As FDG noted, "A few weeks after the workshop, we discovered that some participants are keeping in touch and visiting each other's LFS project autonomously, without our further intervention putting them in contact" (Dec. 09 Diary).

CSOs as research organisations

Changes within FDG brought new roles and responsibilities, requiring a large investment in time to develop new research capacities. The two staff members who initiated the original WP left the organisation shortly after the CREPE project began. And the original topic seemed unviable (see above). This gap offered a new opportunity for an administrative staff member who was already involved as a volunteer in the *Orti Solidali*. Together with former staff members, she proposed that the WP should study the *Orti Solidali.* Although she had an academic background, she had no previous experience in research; and no other staff member expressed interest in the CREPE project. So the study required development of new skills and assistance from other researchers.

Early in the study, it became obvious that there was low participation by the CSO network in the *Orti Solidali*, thus jeopardising its early development. FDG's initial role as participant-observer expanded into joint work with trainees to take on some roles originally designed for the CSO network – i.e. public relations, mass media, data recording and physical work on the *Orti Solidali* infrastructure. Although these extra roles were burdensome, they allowed an insider's view which initiated a further research question about socio-economic sustainability of the *Orti Solidali*. Nevertheless these burdensome roles conflicted with the research aim. Going beyond that initiative, the study later sought to analyse a range of CSA initiatives for comparison with the *Orti Solidali*.

Research as implicit/explicit politics

As mentioned above, the study originally saw the *Orti Solidali* as an experiment in degrowth, i.e. satisfying societal needs while reducing economic activity, thus reducing dependence upon market

exchange and material resources. Subscribers to the Orti were selected for their commitment to the values associated with de-growth; this selection process ensured that the subscribers would maintain their commitment to the experiment, despite the difficulties encountered. The degrowth perspective deepened the focus on new sustainable agro-environmental approaches to urban areas.

This study further saw agro-food networks as agro-food innovation niches that are a step in transition towards a new agro-food system that is more sustainable. Although research on this specific CSA model did not produce the expected outputs on relevant issues for advocating degrowth theory, many promising elements emerged for further research.

3.1.3 WP3: Water scarcity and virtual export from Spain

Food Ethics Council (FEC, UK) and Fundación Nueva Cultura del Agua (FNCA, Spain)

Useful research and importance of their study

By 2006 FEC was already seeking ways to influence Spain-UK food chains regarding water scarcity issues in southern Spain. It was in discussion with WWF-Spain, which had done some preliminary research, e.g. on illegal use of water. The CREPE project offered a way to fund research activities which could fulfil the overall aim. The water study, led by two CSO partners, aimed to increase participation and accountability in water and agricultural policy by bringing together, and so give voice to, stakeholders at all levels involved in issues around water consumption and agriculture, especially those on the consumption side. The study used deliberative techniques to go beyond simple consultation processes that are generally used for policy making. By such means, it aimed to enhance the relevance of their research for policy. FEC viewed their study as “unlocking debates through ethical deliberation”.

Relevant knowledge:

This study brought together two CSOs to research problems of water scarcity. After learning about FNCA's activities as a network of researchers and practitioners on water via the internet, FEC invited them to work together on the study. So FNCA became an extra partner in the CREPE proposal.

Drawing in new knowledge and expertise for their study has mainly involved contact with broad range of non-researchers, as well as academic researchers other than CREPE partners, such as those whom FEC met at a conference. These contacts were established via existing networks and through a ‘snowball’ method, e.g. via interviews, field visits, e-mail feedback and the workshops.

Relevant knowledge was drawn in particularly by the workshop and by a different perspective on water. Beyond the well-known ‘virtual water’ concept, FEC also developed the ‘water footprint’ concept to attract new stakeholders such as supermarket chain Marks and Spencer as a high-profile food buyer, and hence a basis for new knowledge about water flows. Attracting this company to the workshop also helped to attract more Spanish participants, e.g. water agencies and user organisations. The workshop thus engaged all relevant stakeholders – supermarkets, food distributors, water providers, environmental NGOs, farmers and producers – in deliberative dialogues.

As a contribution from the OU, the CREPE coordinator analysed the EU policy framework relevant to water scarcity issues, e.g. through document analysis and interchanges with European Commission staff. Discussion with FEC clarified tensions between that framework and the Spanish case study. This led to further questions about how EU requirements may accommodate and/or constrain agendas for expanding agricultural water usage in southeastern Spain.

Relationships to other participants, knowledge production and mutual learning

FNCA and FEC fostered their relationship by holding regular meetings and e-mail exchanges to share information and do joint decision making. Face-to- face meetings have proved crucial to developing awareness of the study aims and issues. Working together, for example, on interviewing participants, also helped because the two organisations brought complementary but different expertise to the study. FEC designed the deliberative processes, while FNCA contributed its technical expertise in analysing water flows and footprints.

To build understanding in a policy context where stakeholders predictably hold very different views, the partners attempted to build congenial relationships with stakeholders. For example, the workshop was designed to manage conflicts while not necessarily avoiding them, and to provide a non-threatening environment; empathy was promoted and the development of personal relationships encouraged.

Importance of the workshop

The workshop attracted participants directly involved in the water supply chain and water management in that chain. The deliberative workshops were the main instrument of co-operative processes with non-researchers. The workshop enabled different stakeholders to better understand

competing perspectives concerning water management, even if they had sharp disagreements. Bringing stakeholders together who had not necessarily met before enabled new understandings, for example, around why debates around water management are blocked. The workshop enabled the study to draw in new knowledge from supermarkets and those on the consumption side, which conventional water forums had failed to do, thus providing opportunities to "unlock debates in water management" (Diary, Dec. 09). The inclusion of those on the consumption side – supermarkets and distributors – has also resulted in new alternative approaches to water management, such as the inclusion of water-management indicators in the supplier audits that supermarkets undertake.

Mutual learning in this study has occurred mainly in the scoping study for the workshop, which involved two rounds of interview with stakeholders to understand key driving forces for water scarcity in Almeria, as well as in the workshop itself. Following the workshop, participants were keen to meet again for further discussions. Work in this study, particularly with a supermarket, has also been instrumental in promoting a working group, including other CSOs, set up by FEC but led by the supermarket; this group will look at future work on water issues and how to build on studies such as theirs. This also further enables dissemination of their study results. Networks formed through the workshop potentially influence future directions and help to identify ways forward.

The FEC felt that both the workshop and stakeholder participation processes within the study more generally facilitated knowledge exchanges rather than creating new knowledge. New knowledge was created more from the joint analysis by FNCA and FEC, particularly through discussions with the CREPE coordinator. In mutual learning between FNCA and FEC, FNCA contributed special knowledge about methods to calculate water usage and water content of products, while FEC shared its expertise in policy processes and deliberative exercises.

CSOs as research organisations

Both FEC and FNCA have a long history as research organisations. Long before the CREPE project, they both were designing research whose results could be used to advocate changes towards more sustainable practices. Staff carrying out research had some experience in academic research. So the new activity was combining their different expertise in ways linking water footprint, water policy, stakeholder knowledges, etc.

Research as implicit/explicit politics

Regarding water scarcity in Spain, the two partners identified a problem in the Spanish system increasing water use by agriculture, e.g. from plans for more desalination plants. They both sought ways to influence the water and food supply chains to limit that growth.

Within that broad perspective, the two CSOs had different histories and reputations. By contrast to FEC, FNCA's research focus was more technically oriented, but the organisation was already associated with campaigns opposing the dominant water system in Spain and so could be readily seen as partisan. Although FEC likewise plays an advocacy role in the UK policy system, it was a foreign newcomer in the Spanish context and so could more readily be seen as neutral or at least less threatening. Also FEC emphasised its relations with UK supermarkets, whose buying power provided another incentive for Spanish agri-food industry stakeholders to participate in the CREPE study.

FEC's leading role in the interviews and workshop facilitated participation there by powerful stakeholders – water agencies and agricultural water users. Participation by CSOs – WWF and environmental activists – provided extra stimulus for debate. By these various means, the study was able to obtain inside information from industry stakeholders, to probe dominant assumptions and to open up future options for water conservation.

3.1.4 WP4: Local agri-food networks and environmental effects

Federation Regionale des Centres d'Initiatives pour Valoriser l' Agriculture (FRCIVAM, France)

Useful research and importance of their study

This study aimed to identify and explain the main environment effects when farmers get involved in short food supply chains (SFSCs), known in France as *circuits courts alimentaires*. The study aimed to identify available methodologies to assess the environmental effects, with the aim to influence government policies towards supporting SFSCs. As a CSO, FRCIVAM has been facilitating and studying SFSCs since the 1980s. Their CREPE study built on this work and a previous project – *Systèmes Alimentaires Territorialisés (SALT)* – which studied the economics of SFSCs in cooperation with academics. Through the CREPE study, the SALT project team could gather additional environmental information useful for policymaking. The work aimed at presenting grounded proposals to local authorities on how to improve practices, especially by documenting environmental benefits of SFSCs.

Thus this study used an established 'peer group' to build capacity and empowerment through research activities. FRCIVAM enabled such groups to identify, analyse and improve knowledge within the group. CREPE enabled this peer group to open up new lines of research on environmental issues. Three lines of enquiry were addressed – on-farm issues, global issues and local authorities. It also enabled them to give more thought to their practices in doing co-operative research. As in previous projects of FRCIVAM, bringing together academic and CSO researchers served to validate the research in terms of social or practical utility, relevance and feasibility, thus enabling the results to carry more weight with policymakers.

Relevant knowledge

The 'peer' group' was composed of extension agents (CSO partners) seeking to improve their skills in rural development and, for this study, in short food-supply chains. These extension partners were mostly farmers, who had spent part of their professional life in both research and extension work or had experience of both. External experts, i.e. formal or academic researchers with expertise on environmental issues, were drawn in as research partners to help the group by considering new methods or new links with other issues. Some PhD students were trainees under the responsibility of FRCIVAM. Workshops also drew in local authorities, the main target for dissemination.

Initially the study interviewed numerous farmers involved in short food supply chains, in order to learn about their supply-chain practices, diverse motives and environmental effects. This first-hand information provided a basis to identify three categories of farmers in those respects. This analysis in turn provided a basis to persuade local authorities about the benefits, means and feasibility of promoting short food supply chains.

As a main research method, the study organised a series of local workshops, which provided opportunities to draw in additional people from other regions and specific expertise as required. People were also able to contribute expertise between workshops, for example, via telephone or e-mail. In this way the study became a "tranquil intersection", where many projects meet and organize exchanges through critical but always congenial discussions. Although participants may express disagreements, they get accustomed to listen to colleagues' arguments and react to them constructively.

Relationships to other participants, knowledge production and mutual learning

This study emphasised the way that a relationship building approach to knowledge management can lead to "tranquil decision making". The researchers and non-researcher partners worked exceptionally well together, they were used to working together and so held a degree of 'common culture'. Most of the group had some experience of farming and research. FRCIVAM sees co-operative processes as already operating in many research projects on short food supply chains; these processes should be further integrated into the 'mainstream' – i.e. into normal ways of working. For this group, such integration was relatively easy because they had already been working in a co-operative way, without naming it as such. The CREPE study stimulated them to pay more specific attention to their normal way of working and to reflect on those experiences.

Joint responsibilities for trainees and field work helped develop their co-operative working. The uncompetitive nature of the context for their study, i.e. avoiding contentious issues of power and finance, also enabled good co-operation to take place.

This study utilises an intervention method that considers knowledge exchanges to be the basis for developing new knowledge and skills in rural development. The situated and tacit knowledge of farmers is particularly important. Learning occurs in a two-way flow between farmers and external experts, and between the farmers themselves, thus blurring the distinction between 'external and internal' participants.

Importance of the workshops

Six workshops over a 2-year period provided the basis for a continuous process of co-operative engagement, enabling the peer group to work together on their research. The workshops brought all partners together to discuss research questions and methods, to review and monitor their results and ideas on the 3 lines of enquiry, and to steer the research. Workshops were the main way that co-operative activities under this study were conducted. The initial workshops agreed the research questions and overall methodology of the research; then subsequent workshops had discussions on how to help understand the first steps of the research and review it; then final workshops had concluding discussions including external partners to enable dissemination of results.

Beyond developing strong relationships and a strong community of practice, a workshop series stimulated thinking over a two-year period. It enabled difficulties and challenges to not only be identified but also overcome and made the group more aware of their way of working. It also enabled them to "dare to work" and to talk openly about difficult issues – that may be viewed as controversial and that CSOs or researchers may have avoided as a result. "The risk was high for academics to be

aggressively criticised and for CSOs to produce results that would be contradictory to their strategic line" (Workshop report).

Bringing together researchers CSOs and local authorities also helped to find compromises or new approaches in order to find the best solutions for their research practice and outputs. This particularly strengthened the research which necessarily needed to be credible – relevant, appropriate and acceptable to the wider communities of the three main participants. For example, the research needed to meet the scientist's need for rigorous methods, the CSOs' need for practical approaches and the local authorities' need for credibility of elected representatives.

CSOs as research organisations

All FRCIVAM employees are extension agents, not full-time researchers. However, research activities have become the main education and training tool for the organisation. By working together in this relationship-building way, the activity blurred the distinction between researcher and non-researcher. It also changed how the CSO participants previously saw academic researchers, e.g. as "intransigent and poorly open to multi-disciplinary approaches", and likewise changed how some academics previously saw CSOs, e.g. as "naïve knowledge" (see workshop report).

Research as implicit/explicit politics

In the Brittany regional context, agri-food policy is dominated by agri-industrial farming interests. Alternatives have found little scope to gain support from public authorities, e.g. via policies on rural development or public procurement (*restauration collective*). Short food supply chains need such support, but their advocates could not prevail through political lobbying, especially by criticising agri-industrial systems. As a different strategy, research can highlight environmental advantages of short food supply chains, especially in the wider policy context of climate change and food insecurity. On this basis, research has helped to persuade some local authorities to give support.

3.1.5 WP5: CSOs' interventions in agri-environmental research agendas

Radboud University Nijmegen (RU, Netherlands)

Useful research and importance of their study:

Led by an academic partner, this study aimed to contribute to the rich tradition of CSO participation in agri-environmental research in the Netherlands, by analysing CSO roles in research and considering how it might be strengthened. Through case studies, it aimed to gather their experiences of involvement in research – such as science-shops (units at universities that provide research and knowledge support in response to societal concerns), formal representation in research committees and science policy, and citizen science in volunteer naturalist networks. The study looked at how CSOs and scientists have co-operated, how they have tried to influence research priorities and how these activities have changed over time.

However, the plan to cooperate with CSOs had not been negotiated with them before the project, so a first step was to explore these possibilities, in order to develop a research plan. As a result, the study had difficulties in gaining the participation of CSOs. They did not recognise 'research cooperation' as a major issue or aim in generic terms. Rather they were more interested in specific issues relevant to their own activities, or in the prospects of research funding. So the researcher had to explore possible topics; co-operation became a greater challenge than anticipated. As a fellow academic partner facing similar difficulties, the CREPE coordinator gave advice on possible ways to interest CSOs and attract them to the workshop that had been planned for the work package.

Relevant knowledge

The workshop provided the main opportunity to engage with CSOs to help redirect the work package and to get them interested in the research agendas. However, the invitations had to balance the number of CSOs and academics involved in the workshop, especially because more academics than CSOs wanted to attend. CSOs were initially contacted informally through telephone conversations, which attempted to relate their topics of interest to generic themes of the CREPE study. Initially these were meant to be more formal interviews. As the study progressed, the contacts became less formal as the researchers attempted to get CSOs interested in the study.

As a key way to make their CREPE topic more relevant for the CSOs, the study focused on specific examples, e.g. science shops or the Wadden Sea controversy. This focus also helped to engage those with experience of the issue. Ultimately the workshop attracted 20 participants, including a wide range of CSOs interested in agri-environmental issues, as well as academics either from science and society departments or from science shops.

Importance of the workshop

Within the CREPE project, other studies have introduced the workshop following an initial phase in their co-operative research process. By contrast, for this study the workshop has been necessary for

gaining any stakeholder participation. It has therefore been instrumental in allowing the research to proceed, as well as influencing how.

The workshop was structured partly around more specific issues which were identified through discussions with CSOs, as a potential basis for cooperation between them and academics. At the same time, participants were drawn to the workshop more by an interest in making contacts, in enabling interactions, and similar instrumental reasons – rather than a generic interest in 'CSO roles in research'.

The workshop identified key areas that needed attention, such as revitalising co-operation and contacts with CSOs. It also identified the need for guidance for CSOs on how to interact with researchers and research agendas. A manual or handbook for CSOs attempting to engage in research was suggested as a way forward; after initial attempts to develop a wiki site, however, the handbook idea was abandoned as too big and unwieldy. Attempts to attract interest in this project generated no response – probably as this once again resembled too much the "CSOs and research" topic, that did not appeal to CSOs in the first place.

CSOs as research organisations

After the attempt to redefine the study more in the direction of CSO interests, the final breakthrough came in the third case study on volunteer naturalists. The secretary of the national umbrella organisation had an interest in the questions we asked and wanted to cooperate. Having already done a presentation during the workshop held earlier, he now provided access to the network of 'private data-managing organisations' ('PGOs'). This was made easier by the move of the main researcher to Nijmegen University, given that some of these organisations are housed on the Nijmegen campus, as they have a strong research profile.

These new connections included an invitation to speak at an annual meeting of PGO organisations. Our view on how volunteer naturalists guarantee the reliability of data (and the nature of reliability in science) led to invitations to discuss issues of reliability in the data-managing process of the naturalists' network. Conversely, the secretary of the national umbrella has now started to work on a research project envisaged to become a dissertation, supervised by the main researcher. Focusing on the development of the PGOs, his study will link 'science and society' issues with the work of CSOs. Such breakthroughs came near the end of the study. Hence the main researcher found shared interests with CSOs as an outcome of the research, rather than as an input. Nevertheless we plan to develop this cooperation after the CREPE project.

This experience suggests that CSOs do not necessarily see themselves as research partners or research organisations in a generic sense. Academic studies can seem too distant from the experiences of CSOs, thus hampering attempts at doing research in a co-operative way. In retrospect, the attempts to bring in the cooperative aspect at a later stage was a design flaw. In our experience, cooperative research suddenly offered concrete attractions due to personal and regular contact. This then easily developed into an exploration of what researchers and CSOs could mean to each other. As the main conclusion: co-operative research needs to make space to allow CSOs to co-define research topics and questions. This means early engagement, such as when proposals are not fully developed.

Research as implicit/explicit politics

Politics played a role in the research of each case study, but in very different ways. The PGO work is seen and presented as politically neutral, providing data for decision making. However, contribution to nature conservation and environmental protection was an important motivation for volunteers to participate in census projects. Making environmental impacts visible is seen as a politically relevant act. For science shops, similar motivations play a role, but science shops make their main political contribution in knowledge redistribution: to allow access to science even without money, and to keep attention in science for social issues that are not addressed by the state or market. This explicitly concerns the general politics of research, even though other specific political issues may play a role in individual projects. In the Wadden Sea case, we find an attempt to create factual footholds in an field of issues that had been hotly debated in political terms. In the calm of a moratorium, researchers are trying to cooperate to map out at least the contours of a future political solution.

3.1.6 WP6: European Research Area priorities for sustainable agriculture

Fondation Sciences Citoyennes (FSC, France)

Useful research and importance of their study

This study aimed to analyse how the European Research Area (ERA) selectively favours some priorities in agricultural research, amidst competing accounts of the agri-environmental problems that warrant research. It also aimed to analyse how these priorities relate to sustainable development as

envisaged by CSOs, as a basis to inform their efforts towards influencing research priorities for agri-environmental problems.

In the original plan for this study, the FSC would extend methods already developed in an FP6 project, 'Science, Technology And Civil Society' (STACS). That project did a scientometric analysis of research priorities, especially regarding agroecology and organic methods, by analysing databases of research budgets and journal publications. But this task faced various methodological difficulties, which became apparent by the time the CREPE project began. Moreover, a statistical analysis remained distant from relevant stakeholders and their capacity to influence research priorities.

Therefore the FSC turned an earlier difficulty into a new research plan, in consultation with the CREPE coordinator. Together they developed a method to analyse ambiguous language in research agendas, especially the appropriation of key terms, in order to evaluate these meanings from the standpoint of CSOs. For example: In some high-profile reports (IAASTD, SCAR, IFOAM), sustainable agriculture is put in a complex, multi factorial context at the confluence of environment, society, health, economy and culture. By contrast, other documents (FP7's KBBE and ETPs) place sustainable agriculture in a context of competitiveness and support to biotechnological companies. A detailed semantic analysis formed the basis for a briefing document which was pre-circulated to participants at the stakeholder workshops, as a means to attract participation and inform the discussion. In this way, the research was designed to involve key individuals who already had a stake in promoting agroecology research.

Since its establishment FSC has been working with peasants, their organisations and scientific researchers on agricultural issues, especially agro-ecologists. FSC view its role as a knowledge broker between researchers and peasant organisations. They want to enable peasants to participate at a higher national or European level and to help with, for example, exchanging knowledge on best practice or dealing with legal implications. It is particularly difficult for peasants to participate at the European level when such activities are rarely carried out in their mother tongue.

For their CREPE study FSC wished to develop long-term co-operation between CSOs and agro-ecologists around interdisciplinary approaches to agricultural research priorities. By bringing together the two communities of practice – scientists and CSOs – it aimed to identify differences that may limit their capacity to influence research priorities and to take part in research.

Relevant knowledge

FSC engaged their participants through prior networks, through recommendations from their Advisory Board, and informally at seminars and meetings. CSOs, peasant organisations and scientists were drawn into the research by an invitation to share their experiences. Many were already involved in organic, biodynamic, low-input or other alternative agricultures— as practitioners and/or researchers.

The two workshops were key to involving a wider group of researchers and CSOs involved in sustainable agriculture. They also included members of FSC's board and were attended by CREPE's other French partner FRCIVAM. A total of 25 people were involved in the two workshops. Others unable to attend the workshop made themselves available for interviews. The workshop formed a mix of participants of those who already knew each other and others that did not.

Relationships to other participants, knowledge production and mutual learning

The CREPE study built on the FSC's existing relationships with peasants, peasant organisations and researchers. Trust between the groups had therefore already been established. So their CREPE study built on this trust and helped to gain a deeper understanding of the issues.

Interactions with CSO representatives in the workshops enabled their needs to be communicated. For example, the researchers were asked to formulate clear recommendations for dealing with institutions such as the European Commission and for building co-operative research projects generally – with or without involvement of research organisations.

Importance of the workshops

Bringing together the different communities of practice provided an opportunity for participants to consider the issues concerning co-operative, collaboration or participatory research processes as well as other issues concerning sustainable agriculture. They highlighted some reasons for difficulties in relationships between CSOs and scientists: different worldviews resulted in different understandings of definitions, different ways of approaching problems and ways of searching for solutions. More practice based differences were also noted, such as working in different time frames and different power relations. Such differences could make co-operation so difficult that CSOs who had previously worked with researchers ceased to do so, preferring instead to work with other peasants.

The workshops highlighted the importance of relationship building and establishing mutual trust, especially so that grounded peasant knowledge could break out of the informal circles in which it

usually stays. While researchers may seek the knowledge of peasants, they are hesitant to give their tacit and grounded expertise to people they do not know, particularly when their knowledge may lead to commercial innovations. This also highlighted the need to not only engage with CSOs during the research in a participatory or co-operative way, but also to engage with CSOs at the earliest stage of research and to broaden the common view of what is considered research. Interestingly, this study also highlighted a particularly important aspect of co-operative research for peasants, i.e. that such joint research has implications for innovations concerning the law and patents. Peasant knowledge can no longer simply be taken and used by others for commercial enterprise when it is jointly produced.

As in the other WP workshops, mutual learning occurred through bringing together CSOs and scientists in the workshops. A positive dynamic emerged there, leading to common understandings and common goals. The workshops provided an opportunity for peasants to ask researchers questions such as " Why do they not continue the relationship with peasants when their research programme ends?", "Why do they not take the peasant knowledge as relevant?" (Diary Dec09). It particularly helped to develop new understandings of how the different communities of practice functioned. For example, the peasants had been unaware of researchers' difficulties, while the scientists had been unaware of the practical realities that peasants faced in agriculture.

As in some of the other studies, participants valued the workshop and wished to continue that participation beyond the end of the CREPE project. They felt they rarely had opportunities for such exchanges and mutual learning. The workshops also generated follow up ideas, such as a website where knowledge could be exchanged.

Shortly afterwards the French Ministry of Ecology launched a call on "Recherche et expertise pour piloter ensemble la recherche et l'expertise" ("Research and Expertise to jointly guide research and expertise"). The FSC contacted several workshop participants, who accepted the idea of a joint proposal. This included: FSC, the peasants organisation Réseau Semences Paysannes and several scientists from two public research institutions (CNRS and INRA); the latter came from different scientific backgrounds, e.g. genetics, agronomy, sociology. The proposal was entitled ""Co-construction des savoirs et des décisions dans la recherche: l'exemple de la sélection participative en agri-environnement". In spring 2010 the proposal gained approval from the Ministry.

CSOs as research organisations

For this study the CSO researchers played a facilitative role, acting mainly as mediators between the two communities of practice – scientists and peasant organisations. This role was also a research tool, e.g. for identifying obstacles to research cooperation. When the FSC interviewed a government official, however, they were treated as a partisan advocate rather than as a research organisation. This response may have resulted from interview questions putting the official on the defensive on specific topic.

Research as implicit/explicit politics

This study aimed to criticise dominant agri-research agendas and to promote alternatives, especially by linking potential research partners who could bring different relevant knowledges. The semantic analysis examined how key terms – e.g. sustainable, holistic, low-input, etc.— have been appropriated by dominant research agendas, thus marginalising alternative perspectives, This critical perspective helped to generate discussion within and among stakeholder groups relevant to alternative research agendas.

3.1.7 WP7: Innovation narratives in EU-funded agricultural research

Open University (OU, UK)

Useful research and importance of their study

This study has special relevance to the CREPE aim, 'To analyse diverse accounts of sustainable agriculture in relation to agricultural methods, technologies, innovations and alternatives.' This study informed the project-wide analytical framework. The focus on R&D agendas also informed the WP1 agrofuels study and the WP6 ERA study. More specifically:

Nowadays many innovations are promoted as means to 'sustainable agriculture', a concept which thereby acquires divergent accounts and pathways. Each involves a narrative of a better future. From its problem-diagnosis of unsustainable agriculture, each narrative favours specific remedies as desirable or even as necessary, so that society can avoid threats and use opportunities.

In EU policy frameworks more generally, master narratives equate technoscientific innovation with societal progress, as if the main issue were the optimal choice of technology. As a master narrative, the Knowledge-Based Bio-Economy (KBBE) encompasses diverse diagnoses of unsustainable agriculture and potential remedies. Consequently, key terms of the KBBE concept – knowledge, biological resources and economy – have different meanings, thereby changing the role agriculture.

In an industrial account of the KBBE, agriculture becomes a biomass factory. Sustainable agro-production methods are equated with an input-output efficiency in using renewable resources, to be enhanced through laboratory and engineering knowledge. By extending the Life Sciences, research seeks generic knowledge for identifying substances that can be extracted, decomposed and recomposed; this favours knowledge that can be privatised.

In an agro-ecological account, by contrast, agriculture incorporates and enhances farmers' knowledge of natural resources. Knowledge serves rural development, as well as closer relations between rural producers and urban consumers. They learn to trust producers through a specific product identity, representing comprehensive qualities such as sustainable production methods and/or aesthetic characteristics.

For the agri-food-forestry-biotech sectors, now seen as the KBBE, European Technology Platforms (ETPs) were initiated mainly by industry lobby organisations, with support from scientist organisations and COPA, representing the relatively more industrialised farmers. Oriented to capital-intensive research and innovation, ETPs have little common ground with civil society organisations (CSOs). Having gained Commission funds and official recognition, ETPs effectively define who is (or is not) a relevant stakeholder, according to their prospective contribution to value chains; citizens are relegated to the role of consumers, at most. For these structural reasons, civil CSOs have had only marginal involvement, amidst uncommon visions of societal futures.

In such ways, the Commission effectively outsources responsibility for stakeholder involvement to ETPs, which are not held accountable for how they play that role. In the name of creating a common vision, ETPs represent one vision as a common one. ETPs selectively represent or construct some stakeholders as partners in the KBBE.

Towards alternative agendas, various experts and CSOs advocate different kinds of knowledge production: agro-ecological methods; scientific research more closely linked to farmers' knowledge; and food relocalisation, based on consumer knowledge of food production methods and product quality. Taking up such agendas, Technology Platform Organics was initiated by organics research institutes and gained support from a wide range of stakeholders, especially through consultation procedures on research priorities. TP Organics has recast mainstream terms, such as technology and bio-economy, to promote farmers' knowledge of biodiversity as resources for agro-ecological methods and as societal benefits.

Relationships to other participants, knowledge production and mutual learning

CSO links: Early in the project, the OU consulted individuals in FoEE and FSC about how to focus this study, so that it could better inform the overall CREPE project and attract wider interest from CSOs regarding agro-research priorities. Comments emphasised the need to clarify the different forms and means of commercialising natural resources – in the dominant KBBE narrative, and in alternative practices or visions. A CSO advisor emphasised the need to know: how decision-making in the European Commission operates in ways favouring some interests while excluding others; and whether or how the Commission attempts to validate research agendas of ETPs. Such requests influenced interview questions and helped to sharpen the analysis. More detailed comments were obtained from CSOs on the 1st-stage report in early 2009. Among the many CSO contacts built up from this study, further groundwork resulted in three attending the project-wide workshop in Brussels.

Agricultural Knowledge Systems: In early 2010 the EU's Standing Committee on Agricultural Research (SCAR) set up a Collaborative Working Group on Agriculture Knowledge and Innovation Systems (AKIS), taking up a proposal from SCAR's 2nd foresight report. A telephone interview with the CWG coordinators led them to invite CREPE to participate in the CWG as an additional expert. The invitation was accepted, especially by attending several meetings of the first sub-group, which was developing a framework paper on the AKIS concept. In those discussions, the WP7 researcher suggested ways to strengthen the analysis of divergent pathways; many textual suggestions were taken up in the sub-group report. At the same time, the researcher learned much about AKIS concepts and relevant practices throughout Europe. This experience helped to locate the WP7 analysis within the wider institutional context of agricultural knowledge production.

TP Organics: Attendance at the Organics Technology Platform's stakeholder forum in June 2010 led to discussion afterwards with speakers. A focus was how key terms are understood differently in agro-ecological perspectives than in conventional agro-food perspectives. Table 1 was circulated for comment to these speakers, some of whom sent comments clarifying such differences. So the table benefited from the interaction; perhaps so did the respondents.

3.2 Reflecting on the cooperative aspects of CREPE

3.2.1 Cooperative relations

More equal stakes

Although the Open University has responsibilities as project co-ordinator (for financial allocations and overseeing the projects deliverables), all partners were funded by the European Commission for their research activities in CREPE and the overall project was jointly managed and run by all the partners. These joint stakes placed partners on a more equal footing and strengthened CSOs' capacity to participate in research activities. Nevertheless, different stakes resulted from the partners' roles.

In practice, the Coordinator had the major responsibility to deal with difficulties arising for each partner, e.g. regarding the research plan, workshop planning or overall organisational structure. In some cases, the original research plan was too ambitious, e.g. by under-budgeting staff time (e.g. WP1) or by expecting more stakeholder cooperation than was feasible (e.g. WP2, WP5), so the Coordinator advised on ways to change the plan. In addition, the Coordinator necessarily initiated the discussions and draft texts towards a transversal analysis encompassing the various studies.

Several diary entries emphasised the diverse aims of partners. Within a shared ethos of cooperative research, expectations are different, and the need to develop new and useful knowledge is experienced differently outside of academic institutions. Unlike academic researchers, it is not so obvious for CSOs what are the rewards of undertaking this type of activity. Partners expected that CREPE would enable them to intervene more effectively in environmental issues. Involvement also enabled more staff time or new posts to be funded. However, the project had difficulties in getting CSOs to participate in WP5 and in the Brussels workshop; few CSOs readily see the advantages of involvement in research activity and so must be persuaded of how specific activities could benefit them.

Multiple identities and different cultures

In defining cooperative research, the Stirling report and European Commission both emphasise a process of co-building knowledge by researchers and non-researchers – a distinction sometimes equated with academics and Research Organisations, respectively (e.g. DG Research, 2009). This account implies that all participants can be classified in either one category or the other. Although all CREPE partners held budgets to lead studies, some were only beginning to think of themselves as researchers, learning extra skills to go beyond an advocacy role.

Several diary entries reflected on the issue of research identities – and the challenges faced in being both a researcher and a CSO staff member. The competing demands were particularly mentioned in partners' final reflections on the overall project: "Wearing the double hat of campaigner and researcher is difficult, especially to fulfil expectations when you are working in an advocacy organisation." For this partner, an international research team, this problem was further compounded by not being in the same office as one another (WP1, final reflections).

It is clearly not straightforward to become a cooperative researcher. Interviewees, especially those in formal positions, can soon become defensive once they make links between the researcher and the CSO. Academic researchers are expected to perform their research in a particular way, so a CSO researcher may find that they are treated differently than a conventional academic researcher. For example, one CSO research interview quickly turned into a difficult argument once the interviewee understood 'where you are coming from', thus the interviewer became 'labelled' according to their CSO affiliation. This did have some basis, as the diary notes: 'Although we're leading a research project and introduce ourselves as researchers, given our NGO status and habits and the nature of our networks, political goals are never far away' (FSC Oct 08). Such examples indicate the different expectations of researchers working outside academia.

Further, campaigners who are also researchers may 'look for sound bites that can be mediatised' (WP2 Dec 2008). They may react against or have to spend time translating the conceptual language used by conventional academic researchers. Becoming a researcher in a CSO also makes great demands on people's time and resources. Some partners commented on the *daunting* nature of the research process. Especially at the start when they face a sea of documentary material and may need to assemble a cooperative team.

It was therefore important to keep in mind the very different cultures that were brought together in the overall project and partners studies. This encounter did not necessarily lead to disagreements or arguments dividing along cultural lines. For example, it might be feared that all farmers would argue for one perspective and all researchers argue along different lines, but this has not happened. Rather, there were more subtle differences in expectations regarding the style of research and its intended outputs:

> "We have sometimes had some agitated debates, with strong contradictory arguments, but never met a blocked situation with researchers on one side and CSOs on the other. Opinions on every issue are defended by groups that mix farmers, extensionists and researchers, and not one "culture" against the others. This means that each position must be analysed in order to present practical advantages, as well as scientific or strategic ones…
>
> CSOs and farmers often work in a hurry because they are willing to implement new projects quickly, while academics need to take their time to build a robust analysis." (FRCIVAM, Sept 2008)

In practice, negotiations were made and the 'life' of a cooperative research group demanded continual arrangements in order to maintain a working relationship. One way of doing this was to agree terms, and negotiate the meaning of concepts or key ideas in order to reach a negotiated agreement. In the *Systèmes Alimentaires Territorialisés (SALT)* project, for example, FRCIVAM did such negotiations with academic colleagues over the term 'system'. Another way was to envisage and sanction different outputs for the cooperative effort:

> "From the interactions that emerged during the meeting, it seemed to be clear that, both the local researchers and TNI team involved in research activities consider themselves as "researchers" since they are doing research. In this sense, we can expect different levels or styles of involvement, and types of research activities, ranging from writing a paper based on journalistic type of research, but based on strong evidence, to making the necessary contacts to involve civil society's and other relevant actors´ perspectives in the design of research questions and the adaptation of methods to specific realities." (TNI Aug 2008)

Nevertheless, even here the difficulties of melding these identities together was a concern. TNI also reported the delicate nature of negotiations over method, direction and output. So, in cooperative partnership with another CSO (Corporate Europe Observatory, CEO) a publication strategy had to meet research criteria as well as issues of campaign timing and relevance. On the issue of EU targets for biofuels:

> "At this moment we are discussing some possibilities of joint publication with them, but this joint arrangement will depend on them evaluating the use of the publication in terms of a right timing for their Stop Targets campaign." (TNI Oct 2008)

There was also a need to manage various forms of social interaction in the project. For example, attending to the possible conflicts when numerous researchers work together requires thought on how to choreograph meetings. How often to meet, where, through which media. One way has been to maintain a friendly informality:

> Meetings gathered an average of 22 persons – 10 of them researchers, the others combining farmers, extension agents and local authorities. This mixing of different cultures could create misunderstanding or conflicts. We had been advised to avoid too frequent meetings, and meetings that last too long. On the contrary we chose a whole day of exchanges every 3 months for the whole group. We paid attention to maintaining "open times" for informal talks, and to share good food, with a presentation of where it comes from, how it has been produced,… by the "authors" themselves. We think that those measures have been very useful to create a friendly climate.
>
> This climate is essential for co-operation. It allows a mutual understanding or inter-cultural communication. We have sometimes had some agitated debates, with strong contradictory arguments, but never met a blocked situation with researchers on one side and CSOs on the other." (FRCIVAM Sept 2008).

Keeping up with new developments

Keeping up with new developments in their research topic was also a challenge for partners and is particularly demonstrated in WP1. According to the original research plan, the results would have special relevance to EU policy because the research design started by analysing EU policy assumptions. However, these turned out to be elusive, requiring a great search for relevant documents from various sources within the EU policy system; in many cases these were found by asking Commission staff. Eventually WP1 created an analytical table of policy assumptions (on environmental, security and development issues). Although this idealised view of biofuels did not correspond to any consensus within the EU policy system. Interviews with Commission staff revealed considerable disagreements, which had been marginalised by the political decision in early 2009 to legislate biofuel targets. So the WP1 analysis incorporated these disagreements and tensions. By early 2010, moreover, those internal tensions began to surface publicly around expert studies funded by the Commission, especially on indirect land use changes (ILUC). So this development became an extra stage of research, carried out by the CREPE Coordinator in

cooperation with a knowledgeable CSO (Transport & Environment, based in Brussels), which was preparing a commentary on the expert studies.

3.2.2 Cooperative Processes

Understanding the process

It is becoming commonplace for research proposals to engage with stakeholders at an early stage, or even prior to undertaking the research. Yet this interaction, particularly in the initial stages, is rarely fully documented. Engagement of academic partners with CSOs partners from an early stage was an important feature of CREPE, allowing them to help shape the research design. Documenting in detail this early interaction and the subsequent cooperative processes within CREPE, through the diary contributions and reports, provided a descriptive account that may inform others efforts at cooperative research. However, it also enabled the project partners to reflect on their activities and focus more closely on their own research processes.

For CSOs to engage in CR projects with researchers and to be able to put it into practice in their own research, they need to be clear about what they are attempting to achieve. The literature in this area is confusing for conventional researchers, it is even more confusing for CSOs. For CREPE partners this meant there was an initial need to clarify and understand what they were doing and what the academic partners expected of them. To obtain some initial common ground and mutual understanding in the early partners meetings on the concept of cooperative research and how it relates to similar concepts. This was important for facilitating CREPE partners cooperative research activities in their own individual studies and also formed part of the mutual learning process whereby partners were working together and learning by doing cooperative research.

Flexibility

*Flexibility in designing the research***:**

There was a need to be flexible in the design of the studies within CREPE. Following the initial design of the individual studies, there were many changes as a result of changes in staff within the CSOs and the resulting changes in expertise. Most of the studies involved a certain amount of re-design once they had begun. Almost all of the partners had to deal with events beyond their control, however, for some such events significantly impacted on the design of their research, as the following examples demonstrate:

WP1: The change from the initial case study in South Africa, to Mozambique and subsequent redesign of the study. For this work package further funds had to be raised by the CSO in order to do this, especially for travel funds. The workshop held in Mozambique, bringing participants from Brazil and around Africa, was far more expensive than in the original budget.

WP 2: By late 2008 it became clear that the original research plan was unviable, partly because the FDG's previous project had revealed limitations of 'CSO participation in agbiotech issues', at least in officially invited forms of participation. So a new research topic and plan was devised around the *Orti Solidali*, community-supported agriculture initiative in which a FDG staff member was already involved. This initiative faced several difficulties: a main CSO partner in the activity did not fulfil their obligations, leading to a change in location and hence the initiative. This resulted in long delays and detrimental changes in the CSA networks in their study. The study was redesigned to take advantage of what was initially a difficulty and analysed how the initiative prevailed – e.g. how the agricultural activities continued, and why subscribers remained loyal to the initiative despite the difficulties.

WP 5: The plan to cooperate with CSOs had not been negotiated with them before the project, so a first step was to explore these possibilities, in order to develop a research plan. As a result, the study had difficulties in gaining the participation of CSOs. They did not recognise 'research cooperation' as a major issue or aim in generic terms. Rather they were more interested in specific issues relevant to their own activities, or in the prospects of research funding. So the researcher had to explore possible topics; co-operation became a greater challenge than anticipated.

WP 6: By late 2008 it became clear that the original research plan had some awkward aspects, especially the scientometric analysis, which had turned out to be a difficult task in FSC's FP6 project. Also the original plan was far too ambitious in several respects. So the plan was substantially revised along more productive, feasible lines. This meant doing qualitative-content analysis of EU-wide documents and then focusing on stakeholder relations within France.

Flexibility in the time and financial arrangements:

Partners generally underestimated the time and resources that their study would need. This type of research is time and labour intensive, particularly if it is to enable long-term relationship-building between different actors. All CREPE partners struggled with maintaining relationships, collecting large amounts of information, analysing it, and monitoring the outcomes of the interactions during the

study – with limited resources. Challenges arose for both academics and CSOs who must fit this kind of research around their others commitments. For academics this may be other projects or teaching roles; for CSOs, it may be other campaigns. The appreciation of the need to be flexible was closely linked to the partners learning processes. As one partners noted:

> "The most interesting aspect of the co-operative research process to date, to our minds, has been the discussions over terms of funding with the OU. The assumptions that the university's legal team made about the capacity of small organisations were challenged. Circumstances forced an innovative funding arrangement that took into account the financial challenges facing some small CSOs.

Another remarked:

> At least two further conditions must be met for this aspect of the co-operative research process to be considered a success: (a) the funding must be delivered promptly, so work can begin; (b) all partners must complete their deliverables to time." (FEC Nov 2008)

Changes in employment have been a particular challenge for several partners. Changes in staff occurred in four of the work packages – WP1,2,3 and 4. For WP 1 in particular, this presented a significant challenge and resulted in alterations to the research design. For example, In WP 1: After the CREPE project was approved, it became clear that the WP1 staffing plan – a single researcher doing all three case studies -- was unviable. Instead it needed researchers based in each country to be studied. Appropriate researchers were found through the FIAN network in which the WP1 leader was already involved. As another change, the researcher for the German study dropped out at an advanced stage in the study and was replaced by similar means. In WP6: The work was delayed for a long time, partly because of difficulties and delay in an FP6 project led by FSC. The main researcher, who had developed the WP6 research plan, left for another post before much work could be done.

All participants took a risk in committing time and resources, but that risk can pay off if new research agendas have been created, effectiveness increased or policy making altered. In some settings, academics tend to be more established and can therefore afford to take riskier routes in research.

Need for facilitation

The process of putting together a cooperative research project has been described by partners as daunting. This is especially the case where an issue, like agro-fuels, has attracted such widespread attention and debate.

> "On the other hand there is the more 'cooperative' side of the project and all that that entails – seeking out others in both the activist and the academic fields, absorbing and understanding their ideas, fleshing out our (fledgling) ideas, trying to identify points of difference and commonality, and more practically, identifying points where cooperation could be mutually beneficial (and then putting these proposals into action) while also gaining perspective on points of divergence to determine what the implications might be for us. This latter point is particularly important and delicate in relation to an already highly mobilized – and yet complex and diverse -- activist field on the issue of agrofuels on a global scale. " (TNI, Oct 2008)

In this respect, the coordinator, as an experienced academic, played a crucial role in focusing the design of research, suggesting alternative ways to proceed when difficulties arose or new feasible options. This was particularly important in light of the tendency for CSOs to overestimate what was achievable.

Developing communities & networks of practice

Spatial relationships and interfaces

The Stirling definition emphasises *close* working relations between researchers and non-researchers as crucial for cooperative research. A variety of proximities and spaces for knowledge production were apparent in CREPE. Geographical closeness certainly played a part, for example in the TNI case:

> Local researchers were selected due to their research expertise on the topic but also in relation to their embeddedness in social movements´ networks. Within TNI team, we considered that the cooperative aspect of the research process could be better tackled with direct involvement of these activist-researchers in the research design and in the building of a conceptual framework to be later applied in the specific case studies. (TNI Aug 08)

This project, like all the others, progresses through face-to-face meetings and close working relations. However, there were also distances to be kept – in the FRCIVAM case it was important not to meet too often and to maintain a degree of distance in order to keep the project and the relationships 'fresh'. In this case, though, it is important to note that there was a strong bond through

a “common political background” (FRCIVAM SALT diary) and a method which drew upon established methods which included field visits, surveys and common work. These helped to develop a cooperative and led the researchers to suggest that their work benefitted from a local/ regional focus.

Within CREPE the overall project provided enabling spaces, as described earlier. Most partners were highly networked and already drew on a range of informal contacts to develop campaigns and/or research activities. The cooperative research process built on existing relationships and offered a means to extend such relationships and networks. In the process more participants were drawn into the issues of concern to the CSO. In some cases, by working with academic researchers, thus the CSOs can benefit from and be drawn into the academic and policy networks of those researchers.

Relationship-building has been an ongoing process within CREPE. Some partners were building on strong existing communities or networks of practice (for these concepts, see section 2.2.2). For example, FRCIVAM drew on agro-food and academic contacts from previous research projects (e.g. SALT); TNI drew on its FIAN network. Other partners were developing new networks. For example, FEC interviewed Spanish water stakeholders and then brought them together in workshops, co-organised with FNCA. FDG’s workshop brought together community-supported agriculture projects elsewhere in Italy.

Involving local, tacit, situated and therefore grounded knowledge has been important for opening up new research directions. Prior networking was particularly important for gaining good representation of different perspectives at the workshops, which served as further opportunities to extend participants’ networks and to meet new people. Drawing in academic expertise (other than the project team) has also been particularly important for local or specialist expertise. Such academics have provided perspectives on the topic (e.g. TNI’s WP1) and/or advice on implementing or redesigning their plans (e.g. FDG’s WP2).

Within the studies, networks have been particularly important in the learning process. For example, in the case of FSC, the combination of several CSOs in the cooperative research process is helping to generate more robust knowledge of the EU policy system.

> “CSOs have brought their knowledge of the EU research system, which is the object of our research. We hope that they will also take time to help us design and finalise the keywords lists we need for the scientometric analysis of scientific publications.” (FSC, Jul 2008)

This continuous drawing in and extending of networks can lead to unexpected and unplanned benefits for CR. On ‘bumping into’ a contact person who turned out to be mobilising around the agrofuel issue in India, a TNI partner comments on the synergies of already being networked across several related issues:

> “Our pre-existing relationships with FIAN – built up separately and over many years with several individuals on the TNI team (myself, Jun Borras, and Lucia, as well as two of our local researchers – Frank Garbers and Maria Luisa Mendonça, respectively) and in relation to land struggles and the joint FIAN-La Via Campesina Global Campaign on Agrarian Reform (GCAR), as well as on critical engagement with the FAO on land policy issues – is one of the key synergies in this project for TNI, and a key cooperative relationship that TNI brings to this CREPE project.” (TNI Oct 08)

Such meetings often lead to plans for new elements for the research, new perspectives, collaborations and so on. This process has benefits but may also divert resources from the short-term research tasks. In cooperative research it is clearly difficult to find a balance between the flexibility necessary for co-building knowledge and incorporating a variety of expertise, and the requirements to single-mindedly pursue research aims and objectives.

CSO researchers are often involved in many issues; the issues they research are clearly linked to other issues and debates. While academics may be more used to focusing attention on isolated elements of a problem, CSO researchers are continuously being pulled by other projects, campaigns and colleagues to consider a variety of approaches. Potential diversions are compounded in cooperative research; agrofuels gets translated into a variety of political battles – e.g., land use, corporate control, environment, etc.

The research process necessarily draws upon a variety of methods; it is messy. Researchers have interviewed and/or informally consulted ‘informants’ and ‘participants’ in ways that may resemble conventional research methods. Although these activities may not be strictly cooperative research, such activities contribute to the overall process within a cooperative research project, e.g. by stimulating broader attendance at workshops. In such ways, research participants may be more or less closely tied to the project. These ties may also be complex; interviewees can develop closer relations to the topics and participants of the study.

Continuity of networks and relationships was also an important element, in different ways across the studies. Workshops acted as a catalyst for further activities. Participants in all the studies valued their experience of participating; many wished to continue that participation beyond the end of the CREPE project. The workshops successfully initiated bonds, produced new research questions between researchers and CSOs and, for some participants, created lasting relationships.

As an enabling space, the internet has been used in important ways within CREPE. Web sites and e-mail have been used for communication between partners, as well as for CSOs to maintain their networks. The studies also highlight the importance of informal conversations and the need for face-to-face contact in such co-operative research. Face-to-face communication has taken several forms. Skype has particularly offered a free, easy method, especially for group discussions. Also important were the workshops and personal interviews in some cases. Study leaders worked hard to involve participants and create spaces for discussions.

Boundary spanner roles

As noted earlier, for both communities and networks of practice, new opportunities for learning and fresh insights often occur at boundaries (Wenger et al., 2002). Within CREPE, partners have been playing such a boundary spanning role as knowledge mediators, or brokers, in their studies, e.g. by mediating between various experts, CSOs and other actors. Spanning different communities or networks of practice depends on facilitation skills, which need to be developed in both academic researchers and CSOs.

As a disadvantage, this role could create an extra layer, resulting in additional gaps between knowledge mediator and producer; likewise between knowledge mediator and user. By contrast, individuals who are members of different communities can span boundaries without creating such a gap. Instead they facilitate and stimulate linkages across boundaries.

At the overall project level, the Coordinator played a significant role in enabling boundary spanning between the different communities of practice of the CREPE partners. For example, the Coodinator initiated meetings or suggested discussion topics, sometimes spanning the boundary between academic researchers and CSO researchers. This role included: mentoring partners, offering advice on the direction of studies, organising a Brussels workshop with European Commission research managers and CSOs, etc.

Further connections with other communities were fostered in the partners' studies, especially through boundary activities such as the workshops. For example, in WP6 the workshops played a mediation role between agri-ecologists, peasants and CSOs, as a basis for such actors to share their knowledges and cooperate in research activities. In the WP1 study of agrofuels, the workshop spanned several boundaries – between organisations campaigning on human rights, land access and environmental issues, as well as those representing peasants – while also spanning several continents. In the WP3 study of water scarcity, the workshops brought together all relevant stakeholders, including CSOs which would otherwise have little access to the powerful actors who use and manage water supplies.

Relationship building and mutual learning

Partners were learning by doing. Crepe offered 'training' in a new approach to research. For example, in WP2 partners were learning how to work in a team of practitioner researchers; how to relate to non-specialists; how to develop small scale independent projects; how to deal with the practical difficulties of engaging in grounded, local community practice-based research, (WP2 Critical moments reflections). The partners further commented that it was 'useful to gain insights into other projects, see links and understand a bigger picture' (Meeting evaluation March 2009). WP1 noted the way that: 'new insights from the research into the topic of study which would serve as a basis for further work which will draw on 'the consolidation of contacts and new linkages that CREPE made possible.' (WP2 Critical moments reflections).

Despite the different pressures faced by different researchers, some sharing of the mutual challenge of research practice had beneficial effects in terms of reducing the felt inferiority of some outside the conventional academic research organisations as noted below:

> "it appeared that there were not so many differences after all in research projects conducted by researchers and NGOs, in the sense that it is a normal process in research that your end result leads you to conclude that the initial question was not well formulated, that the hypothesis were wrong, or that the tools envisaged to test the hypothesis were inadequate. E.g. it is a good result in itself if, instead of answering the research question, we conclude that the research question has to be formulated differently. These discussions with researchers enabled us to alleviate a potential "inferiority complex" towards researchers, linked to being activists doing research, and to realise it was normal to get out of the initial frame initially envisaged" (FSC Oct 2008)

Relationship building and mutual learning has occurred especially in the workshops or as a result of the workshops. They enabled new understandings and insights into participants' own situations. The TNI workshop also served to consolidate the relationships between the study's core research team, given their base on different continents. The workshops enabled relationships to form and trust to be established; they provided a bridge between different knowledges and cultures. Thus they provided an environment for learning to occur.

This was particularly so for FRCIVAM. Its workshops provided a conducive learning environment. They also demonstrated how "calm decision-making" may result from longer-term relationship-building. Over many years, FRCIVAM found that their way of working led to an effective community of practice. Indeed, it has been doing cooperative research for many years, which has been implicitly mainstreamed. So the opportunity arises to extend the mainstreaming. However, they also note the way that creating a strong community of practice can stifle creativity and a potential challenge was to find ways to generate creativity and critical analysis within the tight community they have created.

Research needs to be seen as relevant to practitioners as a basis for their involvement. WP5 initially had difficulties in attracting workshop participants, because CSOs did not see the relevance of generic themes – by contrast to their own campaign focus. By contrast, FRCIVAM easily attracted participants from long-established relationships. This different experience highlights the need to engage with stakeholders at the earliest stages of research in shaping the topic.

Further, CREPE studies highlight the importance of putting stakeholder engagement on a more equal basis, so that those who will use the research have some control over it. In WP6, peasant organisations felt that power relations are often imbalanced, even when collaborating with scientists who are sympathetic to their aims and needs. Greater equality between participants was enabled by the approach taken in WP4 by FRCIVAM. Such difficulties may arise from the basic structure and requirements of research funding, thus suggesting it warrants changes.

Policy relevance and interventions

As a motive to lead a study in CREPE, partners wanted to influence other organisations, often by intervening in the policy process. According to the DG Research workshop on CSO involvement in research:

> One major goal of many CSO-RO partnerships is to achieve change in the policy context. CSOs' and researchers' abilities complement each other to amplify policy impact. Researchers are often perceived as respected providers of new knowledge, but which is less relevant for the public. CSOs, on the other hand, are remarkable facilitators. They bring into the projects their ability to establish trustworthy dialogue with citizens, for instance through the social services and activities they carry out. They act as relays in both ways, to voice public concerns and to translate research into a knowledge framework which matters for citizens (DG Research, 2009: 20).

Indeed, this prospect also motivated the Coordinator to organise the CREPE project, especially because CSO involvement could enhance prospects for the research results to be taken up in policy arenas. The partner's studies were also designed with some anticipation of how the results could be taken up in policy discussions.

Improving relationships between academics and CSOs academics

All partners noted that they had had a very positive experience in CREPE. Partners enjoyed talking with like-minded people about common issues and the ability to have conversations they could not necessarily have in their own institutions or settings (Partners meeting, March 2009). The partner involved in WP2 noted how they valued communication with other project partners, the advice and help from the research team and considered the face to face meetings both inspiring and assisted with understanding and influencing their research. They valued the easy-going and confidential attitude of partners, the attention paid to everyone's thoughts and the knowledge sharing between colleagues, noting "My experience has been positive and exceeded expectations" (WP2).

Partners in WP1 further noted that:

> "The experience has been very enriching so far and I must say that I was very positively surprised by the good results of the cooperation among partners at different levels and intensities. I found limitations mainly from the side of our (TNI team) capacities to really integrate this project to the strategic work of TNI, since I don't think we had the most favourable institutional framework to capitalize and incorporate the outcomes.." (WP 1)

Also, a partner from WP4 noted:

> "The opportunity to work with formal research helped us achieve a social and thus political recognition that could not have been reached without this support." (WP4)

The value of CREPE was also evident in the way that the CSO partners felt the need and desire to continue with the relationships generated by the project. A longer term project was considered felt necessary to enable the relationships built to reach their full potential:

There are difficulties associated with analysing a project such as the orti that are small, autonomous, have little resources and are highly dependent on volunteers. A longer-term study allows for any changes or delays. It would also allow for further study at a national scale to support community building processes in new food systems. A wider network of relationships could be drawn on in future. Relationships could be built with international partners through continuous contacts and information exchanges (WP2).
There needs to be some continuity of the partnership. There are still many loose ends, new research questions or questions requiring research in more depth. CSOs have limited capacity to capitalise on the knowledge produced by the overall project in their own work. More time is needed (WP1).

3.2.3 A diversity of 'good practice' in cooperative research

As the studies in CREPE indicate, there is not necessarily a clear distinction between cooperative research and conventional research processes; both may be used within a particular study. Self-reflection processes focus on the relationships involved in diverse forms of cooperation. It enables (academic and CSO) researchers to make more explicit their relationships, networks and ways of operating. Making them more explicit helps participants to consider how best to utilise the potential.

Our experience in CREPE highlights the diversity of research practices that cooperative research may encompass and the common issues that arise from those practices. In CREPE, this diversity reflected the types of civil society organisations and their organisational cultures. Their identity and focus,- who they were and what they sought,- determined how they went about researching their topic, especially whom they regarded as the 'relevant' stakeholders to be involved. Thus partners´ diverse roles are not readily reducible to an ordinal scale of activity, proximity, involvement etc – as suggested by some participatory research typologies.

For example: In WP1 the research was designed to bypass CSOs' disagreements over biofuels, towards more flexible policy interventions in the future. It utilised knowledge from academic literature, from CSO reports and from community initiatives (especially through the workshops); the partners were already experienced in doing research. WP 2 sought to investigate and promote degrowth concepts through a local CSA initiative; the study involved people new to this type of research. WP 3 studied water supply chains as a means to limit growth in water use; an experienced research team was knowledgeable about how to engage with all relevant stakeholders on policy issues. WP4 sought to influence regional authorities by promoting the benefits of short supply food chains; the study extended a prior partnership of academics and others involved in food relocalisation. WP 6 investigated research priorities at the French national and European level, as a means to find opportunities for joint research between agro-ecologists and peasants.

Thus each partner was a different kind of CSO undertaking a different piece of research that met the aims and linked into the strategies of their particular organisation. They had a different motivation and focus for their study, a different organisational culture, a different partner structure and a different role for their study's workshop (see the table in Appendix 1). While it might be tempting to look for 'best practice' in their studies, the broader concept of 'good practice' encompasses the many possible practices that could be called 'good' -- depending on the aims, contexts and participants of the research.

This diversity of research practices also has implications for any standardised guidelines, assessment tools or precise management methods. Such measures deny the complexity and specificity of cooperative activity, which needs to remain flexible and open to alternative ways of addressing issues as they arise during the research process. This complexity adds weight to the argument that there 'no simple prescription for best practice' (Huxham and Vagen, 2005: 34) – indeed, that there can be diverse types of good practice.

Such diverse experiences and practices also adds weight to the argument for the need to focus on processes of participation, rather than a toolkit approach that emphasises tools for the job (Reed, 2008). As a metaphor, 'tool' implies that there is a knowable task or problem that a tool can fix. In contrast, cooperative research opens up the task or problem in order to find solutions or ways forward. Reflecting on experience, as in this report, may inform others' efforts at cooperative research, allowing participants to reflect on their own unique situation in light of others' experiences.

In this report we have described aspects that worked for us as CREPE partners and so may be considered as good practice. Within CREPE, good practice involved for example, : building a network of practice; being flexible and open to changes in the initial research plans; reflecting on our practice and documenting those reflections; acknowledging the differences between the academic and CSO cultures; providing spaces to enable learning from one another. Of particular importance was the provision of the financial resources to ensure a more equitable partnership.

Neverthe less it is important to note that intervention into societal issues does not entirely depend upon research. Indeed, much useful knowledge does not come from activity that is formally

recognised as research, even if resulting from a systemic investigation. So cooperative research has important roles beyond answering research questions. New relationships extend knowledge networks among stakeholder groups, while also redefining the problems to be researched, thus opening up policy assumptions and perhaps societal futures

3.3 Linking with other projects: Workshop on research with CSOs

As noted earlier, a workshop designed to share experiences about cooperative practices with other academics and CSOs, was held towards the end of the CREPE project. Sixteen participants attended from eight European countries (plus Canada). Approximately half the participants were partners in six European research projects involving CSOs. Other participants were involved in analogous initiatives. The workshop report, pre-circulated papers and powerpoint files of presentations; all are available on the CREPE project website, http://crepeweb.net/?page_id=383.

During the workshop the following questions were discussed:

- How does CSO involvement (re)frame issues and questions for research?
- What new relations arise between researchers and non-researchers?
- How do they engage in mutual learning?
- How do they jointly generate new knowledge?
- How does research become more accountable? E.g. by opening up issues of sustainable development to civil society perspectives?
- What dilemmas and difficulties arise?
- What can be learned for future efforts?

From the discussions around these questions the following issues arose during the workshop.

Relationships between academic and CSO participants

There is much experience of academics working congenially with CSOs in a research context. This relationship depends on familiarity with each others' aims and cultures. Cultural differences can impede such familiarity and create misunderstandings, unless participants find means to avoid or overcome these barriers.
Cooperative relations can have many motivations. CSOs may seek academic partners to gain greater authority for research relevant to policy goals. Academics may seek access to CSOs' broader networks – to inform the research, as well as to gain greater influence for the results. CSOs and academics have different rhythms of work. Research with CSOs must allow for interruptions due to other urgent activities (e.g. a new environmental regulation or a toxic spill). The arrangements also must be flexible in order to take advantage of favourable circumstances to adjust quickly the research agenda, beyond previous plans. In this sense cooperative research with CSOs is similar to collaborative research with a public administration – subject to changes of trajectory due to a change in government policy or official, or due to a crisis. By contrast, academic research generally develops and implements a longer-term plan.

CSOs as researchers: diverse roles

CSOs can play multiple roles in research – e.g. being consulted about research design, discussing results, initiating topics, or designing and even leading them. Within a project, tensions may arise between predictability versus flexibility of roles: CSOs may initially prefer to have clearly defined roles, especially if they are relatively new to research, but later they may seek and find ways to play more ambitious roles in the research activity. This flexibility would be ideally incorporated into a project structure and overall programme rules. Funds should facilitate the process and relationships, rather than institutionalize specific arrangements.

Tensions also may arise between CSOs' roles as researchers and as campaigners. They try to use research to gain information and authority for their perspective. But they may be seen as partisan or 'political' – rather than as researchers (as if research could be a-political).

Boundary spanners

Within CSOs, key individuals may have capacities to participate (or even to lead) within both advocacy and research activities. Such individuals can span those boundaries and so help to overcome misunderstandings or cultural barriers. Boundary-spanners can help clarify the issues at stake for (and to) participants in diverse contexts and constituencies. The latter can be understood as distinct 'communities of practice'. The boundary-spanner role need not lead to convergent aims or problem-definitions among participants; rather, their divergences should be accommodated in the research design.

Third sector (or third task) science

Beyond research carried out by private-sector and public-sector institutions, a 'third sector' also produces or stimulates new knowledge. This sector makes alliances with academics who take critical

approaches to dominant paradigms. Third-sector research may have distinctive characteristics, especially in framing problems to be solved. A related concept is 'third-task science', originally describing universities' relation to local industry – but potentially also their relation to CSOs.

Transdisciplinary approaches and policy relevance

For research with CSOs, academics face major obstacles in disciplinary rules, assumptions and boundaries. By contrast, transdisciplinary research approaches have provided ways to define societal problems; some transdisciplinary units have been recently created to promote such approaches. By taking up societal problems, transdisciplinary research creates space for critical reflection, gains potential impact through CSO networks and becomes more policy relevant. However, such relevance per se is neither novel nor specific to CSOs, especially in a context where academic research increasingly incorporates official policy framings as its own. Alternatively, research can question official policy frameworks and inform opposition to them, in ways congenial to some CSOs. Through such activities, academics may jeopardise their prospects for conventional careers. Likewise the Netherlands government may soon end its funding for CSOs: why finance persistent critics?

Knowledge democratisation

In EU policy language, European Research Area contributes to a Knowledge-Based Society. Sometimes civil society is seen as helping to democratise science or knowledge. However, such discussions and initiatives remain at the margins of the formal research system, which is largely driven by dominant economic interests. In this familiar sense, research has always been governed in some way, and new 'governance' discourses potentially continue earlier arrangements and power relations. As a challenge for CSOs and academics, together we can try to create or use spaces in the margins for critical perspectives, as a stronger basis to challenge the dominant agendas.

Sustainable development, sustainability or degrowth?

Recognising ambiguities and weaknesses in the term 'sustainable development', CSOs attempt to give the term their preferred meaning, e.g. by criticising dominant development pathways as unsustainable. Some CSOs criticise the concept 'sustainable development' as an oxymoron, on grounds that economic growth cannot be environmentally sustainable. For this reason, some abandon the concept altogether and instead advocate 'sustainability', while dissociating the term from economic growth. Some associate it with degrowth, explicitly or implicitly. These concepts matter for how research agendas diagnose societal problems and suggest possible solutions.

Innovation: social aspects

EU policy language has generally conflated societal progress, innovation and techno-scientific advance in particular (Felt, 2007). Now the EU is being rebranded as an 'Innovation Union', http://ec.europa.eu/research/innovation-union/index_en.cfm?pg=press
This is a Flagship Initiative of the Europe 2020 agenda, which emphasises greater efficiency as a remedy for many societal problems, especially via 'smart, sustainable and inclusive growth' (CEC 2010).

Innovation always has a social component, which is often hidden by a focus on technological advance and/or market imperatives as supposedly driving the future. As a policy framework, the 'Innovation Union' generally reinforces that perspective. Nevertheless the policy offers an opportunity for alternative perspectives to elaborate 'innovation' as social relations, negotiations, pathways and choices.

This new policy mentions 'social innovation', a concept which was elaborated at a workshop on 'Europe and Social Innovation', held on 19-20 January 2009, http://ec.europa.eu/dgs/policy_advisers/activities/conferences_workshops/socinnov_jan-2009_en.htm
The concept can be appropriated for critical meanings and perspectives – e.g. to clarify how innovation generally presumes a particular form of 'social', to identify a social negotiation of such forms, and to motivate research which opens up different social relations through innovation.

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Appendices

Appendix 1: Studies within CREPE (table)

Overall partners' structure: The research activities were structured as eight Work Packages. Five studies (WPs 1, 2, 3, 4, 6) were led by a CSO. For each one, the Coordinator had a time contribution whose extent and content could not be entirely planned in advance. The Coordinator's role was developed in consultation with the lead partner in each study. Three studies (WPs 5, 7, 8) were led by academics.

Workshop reports can be downloaded at http://crepeweb.net/?page_id=191

Work package	Lead partner (+country)	Title and description
WP1	Transnational Institute (NL)	**Agrofuel production in Europe and the global South** *Thematic focus*: EU policy has recently promoted the expansion of agrofuel crops, especially for energy export from the global South to Europe. The policy rests upon optimistic assumptions about the social and environmental effects. This study identified such assumptions and compared them to practices through case studies – Germany, Brazil and Mozambique. *Partner's structure*: The WP leader found appropriate researchers for the three case studies and developed an overall framework paper to guide their work. They all had a background in research. The CREPE Coordinator contributed to the framework paper, especially the study of EU policy assumptions and development policy. *Role of the workshop*: Hosted by the Mozambique national peasants' organisation, the workshop attracted activists from many African countries as well as some from Brazil. They gave comments on the WP1 results, shared their experiences of agrofuel projects and discussed alternative pathways for rural development.
WP2	Fondazione dei Diritti Genetici (IT)	**CSO participation in community-supported agriculture (CSA)** *Thematic focus*: A new community-supported agriculture (CSA) project in Rome, the Orti Solidali, was jointly planned by a few CSOs. The study initially focused on their roles, but various operational difficulties led the researchers to help maintain the Orti Solidali, thus doing participant-observation. *Partner's structure*: The WP leader, newly involved in research, was joined by an academic already studying the CSA project. The design was informed by advice from the CREPE Coordinator, FRCIVAM (WP4) and several Italian academics. *Role of the workshop*: Held in Rome, this brought together diverse experiences of community-supported agriculture in Italian cities, as a basis to discuss difficulties and ways forward.
WP3	Food Ethics Council (UK) + Fundación Nueva Cultura del Agua (ES)	**Water scarcity and its virtual export from Spain to the UK** *Thematic focus*: The export of water from Spain through agro-food products aggravates water scarcity there. This study focused on export from southeastern Spain to the UK, especially the regional efforts to overcome the scarcity problem and UK supermarkets' potential role in setting standards for water use. The study aimed to inform efforts by CSOs, businesses, government and the EU to mitigate water scarcity. *Partner's structure*: FEC led a partnership of the two CSOs, which already had a background in academic research. The CREPE Coordinator contributed to the study of the EU policy framework. *Role of the workshop*: Held in Almeria, this brought together key individuals relevant to water-management issues from state agencies, agro-industry, CSOs and a UK supermarket, as a basis to discuss options.
WP4	Fédération Régionale des Centres d'Initiatives pour Valoriser l'Agriculture (FR)	**Local agri-food networks and their environmental effects in Brittany** *Thematic focus*: This study identified the main environment effects when farmers join or develop a local agro-food network (short-supply chain). It also analysed how government policies facilitate or impede such environmental improvements, as a basis to propose policy changes. Brittany provides a good case study for a general European problem of how alternatives can counter environmental damage from industrial agriculture and conventional food chains. *Partner's structure*: The WP leader already had experience of similar research (often with local academics) through its role as an agricultural extension service. *Role of the workshop*: Through a series of small events throughout Britanny, the researchers obtained comments, leading up to a large conference in Rennes.

WP5	Radboud University Nijmegen (NL)	**CSOs' interventions into agri-environmental issues** *Thematic focus*: In the Netherlands, CSOs have been notably involved in research over the last two, e.g. by carrying out research or influencing state-funded research agendas. This study identified experiences of CSOs' interventions into research; case studies were agro-environmental issues. *Partner's structure*: Time contribution only from the WP leader. *Role of the workshop*: Brought together numerous Dutch CSOs already involved or interested in research, as a basis to explore past experiences and future prospects.
WP6	Fondation Sciences Citoyennes (FR)	**European Research Area (ERA): agri-environmental research priorities** *Thematic focus*: The European Research Area (ERA) sets research priorities, informed by a vision for Europe as a 'knowledge-based society'. This study considered how different actors (NGOs, community of researchers, industry) perceive sustainable agriculture, as well as how CSOs regard current and desirable research for sustainable agriculture, towards potential solutions for agro-environmental problems. *Partner's structure*: Partner already had research experience. *Role of the workshop*: Held in Paris, the workshop brought together French CSOs, agro-ecologist researchers and peasant organisations, as a basis to identify obstacles to cooperative research and ways to overcome them.
WP7	Open University (UK)	**Innovation narratives in EU-funded agricultural research** *Thematic focus*: In recent decades, research priorities have been promoted through key narratives linking technoscientific advance, innovation and societal progress. EU policy has promoted visions of a 'Knowledge-Based Bio-Economy', especially for the agriculture sector. This study analysed how such narratives inform EU research priorities. *Partner's structure*: Time contribution only from the WP leader, though the study informed the others, especially WP1 and WP6, as well as through a time contribution to them.
WP8	Open University (UK)	**Co-operative research processes in this project** *Thematic focus*: This study evaluated the cooperative research practices involved in the overall CREPE project. The study facilitated self-reflection by partners on methods used in co-building knowledge, especially the relations between researchers and non-researchers. From the diverse cases in this project, the study drew lessons for future efforts at co-operative research. *Partner's structure*: Other partners had a small time-contribution to maintain a regular diary of their activities, especially relations with other participants in the study. *Role of the workshop*: Brought together participants in EU-wide research projects involving CSOs as partners, in order to share experiences and draw lessons for future efforts.
WP11	Open University (UK)	**Dissemination of project-wide results** *Focus*: Brussels workshop as well as publications. *Partner's structure*: Coordinator consulted partners on thematic focus for the workshop. *Role of the workshop*: Held in Brussels, entitled 'What Knowledge for Sustainable Agriculture? What Bio-Economy for Europe?' Brought together European Commission staff, research managers from some member states, CSOs and Technology Platform Organics in particular. Discussion focused on divergent agendas and policy choices for agricultural research. Briefing document from CREPE results provided a reference point and a link to EU policy.

Appendix 2: Diary questionnaire

CREPE Work Package 8: Cooperative Research processes in the project

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DIARY QUESTIONNAIRE

From the discussion at the Paris meeting, we agreed all partners will keep and submit a regular diary on the cooperative research processes in the project.

What is cooperative research?

We are working with the general or ideal definition of cooperative research used by the SiS unit. This definition includes: Cooperative research should involve researchers and non-researchers, should develop new knowledge and should involve mutual learning (with all parties gaining from the process).

Who submits the diary?

We recognise that people can't be everywhere, so the views in the diary will be partial. Each partner ideally should have one person who is responsible for the diary, and writes from their perspective, and / or coordinates and collects text from all relevant staff members, who speak from their own experiences and perspectives. In each case diary entries should be clearly attributed to the people who supplied them. (i.e. make it clear when you are supplying your own reflections, or those of a colleague, participant etc.)

What will be in the diaries?

The information for the diaries may record activities, places, conversations, difficulties, tensions, excitements, products or outcomes and so on. Sometimes the most seemingly mundane aspects of cooperative research can be the most insightful, so please fill in as much as you can, and feel free to send us information, notes, recordings, anything at all, that you think might be useful for us in understanding how cooperative research is done in practice.

In the table on the next page, there are guide questions for your diaries. It will be useful for us if you follow them, but don't feel that you need to answer every question or that they preclude you from writing down other thoughts and comments. They are only a guide, and some of the questions/ prompts will be more relevant to some projects than others, and at some points earlier or later in the research process. Please bear in mind that the questions may be changed as we develop the diary and seek specific answers to issues that arise. When answering the questions it is reasonable to refer to recent experiences of relationships between academics and CSOs in other research projects such as PSx2, STACS, SALT etc, especially when these inform your CREPE work.

Please note, the main questions refer to the cooperative research in your work package, and you should concentrate on this, but it may also be relevant to send comments and reflections about the cooperation that exists for us as researchers in CREPE. However, we will be able to evaluate our mutual learning as a group of partners in the project meetings.

When to submit

We ask all partners to do the first instalment by 31st July, and again every two months thereafter (e.g. end of September, etc.). The replies will be available to all CREPE partners.

Many thanks for your cooperation

Steve and Sue

Diary Questions
1. Involvements Who has become involved in the research? Who else did you, or others in your organisation, try to involve? How did participants get involved? Were they chosen? Did their involvement stem from previous contacts/ networks? In what ways have they become involved in the research? (formal, informal, consultation, team work etc).
2. Relationships What were the different aims, interests, concerns and expertise of the participants? What were the relationships between participants? (Including your own role as a participant). Was the research/ non-researcher distinction important in defining roles/ expectations? *
3. Changes/learning/new knowledge What extra issues and perspectives have participants brought to the research? How have you thought differently about issues as a result? How have the participants thought differently or changed as a result of being involved in the research? What were the changes in roles and relationships among participants?
4. Your expectations How do you want and/or expect the relationships between participants to develop?
5. Other material Do you have anything else to add? Do you have other relevant material available in electronic form? (please send)
6. Extra Questions: Would you suggest additional or different questions to this diary questionnaire for next time?
7. Evaluation: How would you evaluate the cooperative aspects so far? *

Appendix 3: Cooperative Research: force field analysis

This summary resulted from the Force Field Analysis conducted during the 2nd partners' meeting.

Restraining forces	**Driving forces**
Complexity making cooperating difficult	Complexity requiring cooperation
CSOs' multiple and ambiguous roles	
Difficulty in being perceived as neutral	Funding for CR (resource and legitimacy)
Researchers have a credibility problem	Combining activist and researcher role brings creative possibilities
Local CSOs can't easily see benefits of CR	
Large administrative burden	Global issues require cooperation
	Reflection makes for better practice
	Interactions are energising
	CSOs have good outreach, making knowledge more robust
	All parties can gain credibility and work to set new agenda
	Cooperative publications may have wider benefits
Different stakeholders use different languages	
Conflicting interests, especially where some stakeholders may lose from the new arrangements (e.g. in the water scarcity case, some companies or farmers may lose out)	Different perspectives can add value
Perceived partiality of the researcher	Shared interests – where all parties can see the benefit in solving a problem together
Scaling up: difficult to work from CR case studies to broader issues, or from research to policy, from small to large	Perceived neutrality (for example FEC)
	Discourses around a topic like sustainability generates enough shared ground to cooperate
	Fear of being exposed (e.g. companies would rather cooperate than be exposed as unethical etc)
	CR provides iterations and helps to generate an adaptive research process that is never far from its 'ground'
Mobility of staff (across all research sectors, but may be a bigger problem in CSOs)	
	Mobility of staff (presents new opportunities)
	Social relevance
Requirements of CR (social and fixed capital)	Socially constructed questioning
Difference in interests	Shared responsibility
Fear of instrumentalism	Double identities
Institutional barriers	
Unpredictable outcomes	Gaps in scientific knowledge
Previous experience (if negative)	Previous experience (if positive)

Appendix 4: Reflection questions

Please reflect on the overall CREPE experience and answer the following questions as fully as possible.

1. Please describe, or give your story about, the critical moments in CREPE that helped you with answering you research questions.
Critical moments are the most important element (or elements) from you experience of working on CREPE. They are moments of change when situations or feelings became better or worse, or turning points - good or bad. For example, they could be surprises; the emergence of a difficult problem; the solution of a difficult problem; the visualisation of new futures/possibilities; the disturbance of a strongly held belief; the achievement of highly desired objectives; the change in a key component of the context of your research; the emergence of threats etc.

When describing your critical moment/s, please note at what point in time during the project it/ they occurred.

2. From your experience of working in CREPE, what were the key lessons learned
for your research area?
for your kind of organisation?
for yourself personally?

3. How might you improve what you/we did in CREPE?

4. What suggestions do you have for future efforts?

5. Are there aspects of doing cooperative research that you feel need further investigation?

6. Has working on CREPE met with your expectations? Please explain your answer.
Did your expectations change during the project? If so how?

Appendix 5: Sustainable agriculture as a contested concept

As an overall project theme, agri-environmental issues provided a reference point for analysing different accounts of sustainability. To stimulate such analysis, the Coordinator drew on binary typologies from various sources to generate a typology especially for CREPE (see Table 1). This typology initially implied that each institution promotes a specific account of sustainability. As our project discussions indicated, however, divergent accounts were co-existing within the same institutions; such accounts may remain implicit or elusive and so difficult to analyse.

For some topics under study, dominant policy agendas were proposing technological solutions which would more efficiently use natural resources to enhance sustainable development. In our studies, these solutions were critically analysed as techno-fixes which evade the fundamental sources of unsustainability. Two examples follow.

Biofuels technology (WP1: TNI)

Technological innovation has been promised to alleviate sustainability problems of current biofuels, especially in the global South. Rural populations there have faced environmental degradation, land grabs and competition for different land uses – partly due to biofuel expansion. Such criticisms have been turned into support for future novel biofuels which would convert renewable resources more efficiently, especially from non-food crops, and could productively use 'marginal land' not in competition with food uses. For example, 'The higher the productivity of a feedstock, the less it will compete for land with food; until second generation biofuels are commercially available', argued a European Commission report in 2008. 'Bioenergy development should be encouraged for crops and lands which compete the least with food and other uses, either directly (they are not staple foods) or indirectly: they have higher yields, hence use less land', argued the European Commission's development agency in 2009.

In these accounts of biofuels, their current unsustainability is due to inefficient use of resources. From that diagnosis, the EU has justified ambitious biofuel targets as incentives to develop more efficient production methods, e.g. by using 'marginal land', developing novel crops, processing non-edible plant material into fuels, etc. Contrary to such diagnoses, however, the current sustainability

problems are driven by political-economic forces – e.g. extending monocultures to more land, subordinating land use to global markets, linking agricultural prices to oil markets, more intensively extracting labour through global value chains. More efficient production methods per se would not counteract those drivers – and could even strengthen financial incentives for industrialising more land, especially to supply expanding global markets.

Underlying the conflict are divergent accounts of sustainability, each with different concepts of nature in the agricultural context. Biofuels promoters see society-nature relations as reduced to competitive advantage in global markets, especially through agri-industrial monocultures. This agenda gives priority to market-oriented economic knowledge and high-tech corporate knowledge for more efficient production methods. By contrast, agrofuel opponents see natural resources as a commons to be protected and shared by rural communities; alternative pathways should be based on the knowledge and needs of small-scale producers.

Water technologies (WP3: FEC + FNCA)

In EU policy, more efficient water technologies are meant to alleviate water scarcity in water-stressed areas such as southern Spain. Solutions should be found in 'clean technologies that facilitate the efficient use of water', argues a 2008 European Parliament report. In practice, efficiency measures are already widespread among the larger agricultural producers in Andalucía. But the investment has brought political-economic incentives to maximise returns by increasing the cultivated area and thus overall water usage by agriculture.

Spain has been promoting additional water supply infrastructure, e.g. desalination plants – which should be a last resort after trying efficiency measures, according to EU policy. In practice, however, desalinated water is already being used by many farmers to supplement aquifer supplies, especially as they become depleted. To satisfy the ever-increasing water demand from agricultural production, moreover, the government aims to build more desalination plants. Their operation will increase greenhouse gas emissions, among other harmful effects.

Thus eco-efficient innovations sustain the exhaustion of natural resources – or at best delay the process. Meanwhile water users can avoid responsibility for the scarcity problem. By contrast, a sustainable solution would need changes in land use and regulatory measures, e.g. to ensure that more efficient methods minimise overall water usage. Such changes would depend upon broader knowledge networks for land and water management.

For these water issues, stakeholders bring different perspectives on sustainable development. Large-scale agricultural producers and water providers bring a modernisation approach, separating the environment from the farm, which is conceived as a machine for maximising productivity from inputs, including water. Its potential scarcity relates to issues of availability and affordable price. By contrast, environmental NGOs see the value of water in the hydrological ecosystems that it sustains. This divergence underlies the policy conflicts over water conservation measures and techno-fixes.

Table 1: Sustainable Agriculture as Divergent Paradigms

For a more detailed version, see the CREPE final report

	Dominant paradigm	Alternative paradigms
Problem-diagnosis: agri-economic threats	Inefficient farm inputs, outputs and processing methods disadvantaging European agri-industry in the global economy.	Globalised commodity production, trade liberalisation, intensive monoculture, agri-industrial efficiency, farmers' dependence on commodity inputs.
Solution in sustainable agriculture Sustaining what?	More efficient plant-cell factories as biomass sources for diverse industrial products. As new oil wells, agriculture can substitute for fossil fuels, thus expanding available resources. Sustaining economic growth, resource usage and commodity flows.	Agroecological methods for maintaining and linking on-farm resources (plant genetic diversity and biocontrol agents), thus minimising usage of external resources. Sustaining the resource base, communities and solidarity.
Society as community	Individual beneficiaries of global markets through rural employment and novel 'green' products available for rational consumer choice.	Closer producer-consumer links through trust in a comprehensive product identity/integrity (beyond specific attributes) based on flexible images of quality.
Natural resources	Mechanical-informatic properties as a natural cornucopia which must be identified, unlocked, mined and exploited for adding market value. Substances to be decomposed and recomposed.	Ecological processes which can be simulated and intensified (e.g. soil as a living system, nutrient recycling, whole-farm systems, etc.) by farmers for agri-production,.
Knowledge Product validation Agricultural Knowledge Systems (AKS)	Computable data (laboratory & engineering knowledge) for more efficient, flexible agro-inputs, production and processing methods. Technological convergence for databases to standardise properties of components and their combinations. Value chains linking decomposable characteristics with end products.	Farmers' collective knowledge of local resources, ecological processes and product quality, as a basis for empowerment. Certification systems for product identity/integrity, partly dependent on state and private-sector bodies. Cooperation between agronomy, lab science and farmers' knowledge.
Markets	Global value chains realising market value in commodities (agri-inputs and outputs) and proprietary knowledge, as a basis for capital-intensive knowledge to gain from added value.	Shorter agri-food chains valorising local resources, based on consumer trust and greater proximity, as a basis for producers to gain from the extra value that they add.
Government policy	Private-sector access to innovation-friendly policies, e.g. public funds for research, natural resources and proprietary rights over knowledge. Targets for biofuels to create a European market and thus stimulate innovation for bio-based products.	Farmer access to integrated agro-ecological research and advisory (extension) systems. Support for food re-localisation via infrastructure and urban-rural linkages.